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No. 2918

United States ¹⁰⁸⁰

Circuit Court of Appeals

For the Ninth Circuit.

Transcript of Record.

(IN THREE VOLUMES.)

UNION TOOL COMPANY,

Appellant,

vs.

ELIHU C. WILSON,

Appellee.

VOLUME III.

(Pages 801 to 1127, Inclusive.)

Upon Appeal from the United States District Court for
the Southern District of California,
Southern Division.

Filed

JAN 30 1917

F. D. Monckton,
Clerk.



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(Deposition of Frederick W. Jones.)

XQ. 162. Did you ever discuss that catalogue with Mr. Edward Double or look it over with him?

Mr. LYON.—Objected to as incompetent, not cross-examination, irrelevant and immaterial, and having no bearing upon the issues of this case.

Mr. BLAKESLEE.—Without going into argument in violation of the rule, we wish merely to state that the witness has testified as inventor and as to the relation between his operations and acts and inventions and the production of certain types of reamers at the shop at Santa Paula in question, thereby laying the foundation for such cross-examination.

Mr. LYON.—The further objection is urged that the question of whether this witness or the said Edward Double did in fact invent anything whatever, is immaterial in this case, particularly as to whether said Edward Double invented anything, the material fact being that this witness caused to be made and [671] caused to be used and caused to be sold and offered for sale underreamers of the types illustrated by Defendant's Exhibits Fred W. Jones Reamers, Types 1 and 2. This suit does not involve any question as to whether such reamers so designed by this witness did amount to or did not amount to patentable invention at that date, and the witness has not been examined as to any such alleged Canadian or other reamers.

Mr. BLAKESLEE.—If the invention by the witness of any reamers—and I now refer the act of invention itself—is immaterial in this controversy, the

(Deposition of Frederick W. Jones.)

question asked the witness on direct examination as to his conception of one or both of the types of reamers offered in evidence in connection with the direct examination was immaterial. As such question or questions was or were asked, such examination that is now being conducted in cross-examination is certainly proper; and it is proper to test the memory of the witness as to the origin of these inventions inquired into in direct examination, and whether such origin was of the nature of sole or joint invention, and, if so, who was or were responsible for such origination.

Mr. LYON.—The witness is not claiming any patent or patent rights on either of the two types of Jones Reamers offered in Evidence, and no patent has ever been issued thereon.

Mr. BLAKESLEE.—However, the question of conception was gone into on direct examination.

A. Yes; more than once.

XQ. 163. (By Mr. BLAKESLEE.) Was that before any reamers were made by or for Mr. Double at that shop at Santa Paula?

Mr. LYON.—Objected to as irrelevant, immaterial and not cross-examination.

A. It was about that time.

XQ. 164. (By Mr. BLAKESLEE.) Are you able to say that it was not before any such reamers were made at that shop by or for [672] Mr. Edward Double? A. Yes; I think it was.

XQ. 165. It was before? A. Yes.

XQ. 166. And was the Swan reamer in the

(Deposition of Frederick W. Jones.)

shop at Santa Paula referred to before any such reamer was made for or by Edward Double, and did you discuss such Swan reamer with him at such time?

Mr. LYON.—The same objection.

A. Yes.

XQ. 167. (By Mr. BLAKESLEE.) Can you state briefly what such Swan reamer was like?

A. The main body had a tapering tongue, the small end down, and two cutters sliding on the tapering part, held in place with tongues and a rod operating on the inside of the body with a key in said cutters.

XQ. 168. Those tongues were in the nature of dovetails on the body, were they? A. Yes, sir.

XQ. 169. And there was a hollow-slotted part at the lower end of the body, faces of which inclined downwardly toward each other? A. Yes, sir.

Mr. LYON.—All questions in regard to such Swan reamer and its construction are objected to upon the ground that the same is not cross-examination, irrelevant and immaterial.

XQ. 170. (By Mr. BLAKESLEE.) And the cutters or bits slid up and down on this hollow-slotted extension with its confined faces, did they not?

A. Yes, sir.

XQ. 171. And they were pulled upwardly in expanding position by a spring-actuated rod which carried a key that [673] projected through this hollow-slotted extension and was engaged with the cutters? Is that not so? A. Yes.

XQ. 172. Did you understand that the cutters of the Canadian underreamer of the Oil Well Supply Company Catalogue of 1896 or '97 that you have told

(Deposition of Frederick W. Jones.)

about, tilted over the lower end of the body of that reamer?

Mr. LYON.—Objected to as incompetent, not the best evidence; irrelevant and immaterial in this case.

A. No.

XQ. 173. (By Mr. BLAKESLEE.) And they moved in and out, did they not, as they came down over the lower end of this body or were raised up in expanding?

Mr. LYON.—The same objection, and the objection will be understood as repeated to all questions asked the witness, without the necessity of further repeating the same.

A. Yes.

XQ. 174. (By Mr. BLAKESLEE.) And they swung in and out, didn't they, in doing that?

A. Yes, sir.

XQ. 175. In other words, they moved in a sort of a grooved path, did they not, similarly to the cutters of Defendant's Exhibit Fred W. Jones Reamer Type 1? A. More like No. 2.

XQ. 176. And they were not confined to a definite path for such movements just like they are in this type 1 underreamer in evidence? Is that not so?

A. No.

(The question is read by the examiner.)

A. I think it is.

XQ. 177. (By Mr. BLAKESLEE.) But in both that Canadian underreamer and type 1 reamer in evidence before us, the cutters [674] were caused to move inwardly as well as downwardly in contract-

(Deposition of Frederick W. Jones.)

ing, and outwardly as well as upwardly in expanding, were they not? A. Yes, sir.

XQ. 178. You have referred to certain features by the term of steps on the cutters of this Canadian underreamer. What were they like and what were they for?

A. Well, we don't always use the same term for the same thing. The step, I would say, would be the place where the foot of the cutters would rest while they were working.

XQ. 179. And those were projections inwardly, were they not, from the inner faces of the cutters that bore on the body of the reamer? A. Yes.

XQ. 180. And when these projections came down below the lower end of the body of the reamer, what happened?

A. They hooked around the step.

XQ. 181. And what occurred to the cutters at that time, or in what position did they come?

A. They were brought in so that they would pass down the casing.

XQ. 182. Brought into contracted positions?

A. Yes, sir.

XQ. 183. And then how were they drawn up into expanded working position when they got below the casing in the hole?

A. Well, practically the same as most all the reamers the way they are made to-day.

XQ. 184. By means of a spring-actuated rod and key or something of that sort? A. Yes, sir.

XQ. 185. And that same effect is produced in De-

(Deposition of Frederick W. Jones.)

defendant's Exhibit Fred W. Jones Reamer Type 1, is it not? A. Yes, sir. [675]

XQ. 186. And the cutters in contracting in this type No. 1 reamer before us moved downwardly and inwardly, and in expanding moved outwardly and upwardly, did they not? A. Yes, sir.

XQ. 187. And as a matter of fact, the cutters on this style No. 1 reamer before us do move in curved paths so that the cutters themselves tilt or turn inwardly or outwardly in contracting or expanding. Is that not correct? A. Yes, sir.

XQ. 188. And did you not discuss this reamer like the type 1 reamer in evidence before us, with Mr. Edward Double as referred to, before any reamers were made for him or by him?

Mr. LYON.—Objected to as not cross-examination and irrelevant and immaterial to the issues of this suit.

A. It is pretty hard for me to separate those things in my mind, as they were so near together at that time. I think that this exhibit No. 1—the invention was completed before or about the time that Mr. Double was making the first underreamer.

(The question is read by the examiner.)

A. No.

XQ. 189. (By Mr. BLAKESLEE.) I, of course, Mr. Jones, do not refer to this particular reamer lying on the floor before us, but I refer to any reamer of that kind, a model or anything else that you made. Did you not discuss that with Mr. Double before any reamers were made by or for him?

(Deposition of Frederick W. Jones.)

A. This model No. 1 I made myself individually. Mr. Double and me had discussed underreamers pretty thoroughly, and as between us I consider we were the originators of the idea of the original Double reamer.

Mr. LYON.—I move to strike the answer from the record and exclude it from consideration on each of the grounds stated in the objections thereto, and upon the further ground that it [676] is not responsive to the question, and I ask that the question be reread to and that he answer the same yes or no.

Mr. BLAKESLEE.—Read the question.

(Question is read.)

A. I think I answered that question, didn't I?

XQ. 190. (By Mr. BLAKESLEE.) Please answer it again so that the record may show clearly.

A. This model type 1 I invented exclusively myself, but me and Mr. Double discussed the underreamer problem pretty thoroughly at that time and I and Mr. Double were the originators of the original reamer that Mr. Double made at that time.

XQ. 191. Will you state a little further so that there may be a direct answer to the question, which both Mr. Lyon and myself want, whether you did not discuss with Mr. Double—and by that I mean talk about with him or show to him a model or something of the kind like this type 1 reamer before you on the floor—before any reamers were actually made by or for Mr. Edward Double?

A. Well, I think I did, but I can't say positively. As I said before, the connection is so close there that

(Deposition of Frederick W. Jones.)

I can't hardly separate them in my mind at the present time. But I know that at that time my mind and Mr. Double's too were pretty well wrapped up in the underreamer problem for several months, and I can't say whether this was before he got it up or after he got it up, but it was not afterwards, I am satisfied. It was along about the same time.

XQ. 192. And you discussed it with him about the same time? A. Yes, sir.

XQ. 193. You had a model, did you not, in wood, of an underreamer, like Defendant's Exhibit Fred W. Jones Reamer Type No. 1? A. Yes, sir. [677]

XQ. 194. Can you state when you made that wooden model?

A. It was some time in the spring of 1901, and I think it was in May. I am not certain, but it was either April or May.

XQ. 195. Did you show that model to Mr. Edward Double? A. Yes, sir.

XQ. 196. How soon after it was completed?

A. Well, just a few days.

XQ. 197. And you showed it to him at the shop of which he was foreman at Santa Paula, California?

A. Yes, sir.

XQ. 198. Do you know where that wooden model is today?

A. No, sir, that special model I can't say. It was a very small affair made so that I could put it in my pocket, and it was just to prove the idea. But I made the wooden models after that for full size reamers—several of them.

(Deposition of Frederick W. Jones.)

XQ. 199. Were they just the same as the small pocket model that you showed Mr. Double as you testified?

Mr. LYON.—Objected to as incompetent; no foundation laid for the introduction of secondary evidence, irrelevant and immaterial, which objection is understood as repeated to each question asked this witness in regard to this subject matter and the further objection is made that it is not cross-examination.

A. Yes, sir.

XQ. 200. (By Mr. BLAKESLEE.) I show you three photographs and ask you if you know what they show?

Mr. LYON.—Objected to as incompetent and not the best evidence, no foundation laid for the introduction of secondary evidence.

A. I recognize that as the model No. 1.

XQ. 201. (By Mr. BLAKESLEE.) When and where did you make the model of which these photographs were made?

Mr. LYON.—Objected to on the grounds heretofore stated on record and on the further ground that it is assuming a fact [678] not stated by the witness. The witness has not stated that this is a photograph of any particular thing, but simply a photograph like his model No. 1 reamer.

Mr. BLAKESLEE.—The last answer states that this is the reamer.

Mr. LYON.—The record speaks for itself.

A. At Santa Paula.

(Deposition of Frederick W. Jones.)

XQ. 202. (By Mr. BLAKESLEE.) When?

A. In the fall or summer and fall of 1901.

XQ. 203. It was after you made the first pocket model which you showed to Mr. Double?

A. Yes, sir.

XQ. 204. And how large was this reamer, approximately? A. $7\frac{5}{8}$ inches.

XQ. 205. Have you that pocket model in your possession or under your control to-day? A. No, sir.

XQ. 206. Do you know where it is.

A. I do not.

XQ. 207. When and where did you last see it?

A. You have got me stuck now. I don't know.

XQ. 208. Can you give some date and place which is the last in your recollection as to seeing this wooden model? A. I can't remember.

XQ. 209. Do you remember anything that Mr. Double said when you showed him the small pocket model like the wooden model of which these photographs were made?

Mr. LYON.—The same objection is noted, and that it is assuming facts not in accordance with the testimony of the witness nor with the facts in the case.

A. No.

XQ. 210. (By Mr. BLAKESLEE.) Do you remember anything you [679] said to him at that time?

Mr. LYON.—The same objection.

A. I cannot remember.

XQ. 211. (By Mr. BLAKESLEE.) The spring-actuated rod with the head on it for holding the cut-

(Deposition of Frederick W. Jones.)

ters of this type No. 1 reamer like the photograph we are discussing came, in a general way, from the Swan reamer, did they not? A. I think not.

XQ. 212. What particular difference was there?

A. This head rests below the cutters and the Swan had a key.

XQ. 213. But both had the spring-actuated rod?

A. Yes.

XQ. 214. Yet the spring-actuated rod in the Swan did not cause the cutters to tilt as they were expanded, whereas in the model like that shown in the photographs and the earlier pocket model of the spring of 1901, the cutters with the spring are moved in and inward and outward path, were they not?

A. I don't quite get you there.

(Question is read by the examiner.)

A. Yes.

XQ. 215. Referring again to these three photographs and comparing them with Defendant's Exhibit Fred W. Jones Reamer Type 1, do you find any differences in the construction and arrangement and purpose or action of the parts?

A. Different from the original?

XQ. 216. Comparing with that one on the floor.
(The question is read by the examiner.)

A. Nothing only the square on the lower end of the rod.

XQ. 217. The mode of operation would be the same? A. Yes, sir.

XQ. 218. And the square on the lower end of the rod would not make any difference in that?

(Deposition of Frederick W. Jones.)

A. It would keep the rod from turning and getting out [680] of place.

XQ. 219. And these photographs show, do they, just what was the construction and arrangement and operation of the parts in the little pocket model which you showed to Edward Double, as testified, in the spring of 1901? A. Yes, sir.

XQ. 220. And that was as early as April or May, 1901? A. Yes, sir.

Mr. BLAKESLEE.—Complainant offers in evidence the three photographs just discussed with the witness, in one group, as complainant's exhibit on cross-examination of witness Fred W. J. Jones, photographs of Jones model of Defendant's Exhibit Fred W. Jones Reamer Type 1.

Mr. LYON.—Objected to as not cross-examination, incompetent, irrelevant and immaterial.

(The said three photographs are together marked "Complainant's Exhibit on cross-examination of witness Fred W. Jones, Photographs of Jones Model of Defendant's Exhibit Fred W. Jones Reamer Type 1.")

XQ. 221. (By Mr. BLAKESLEE.) I notice, Mr. Jones, that Defendant's Exhibit Fred W. Jones Reamer *Tyle* 1 has certain shoulders of the curved dovetails at the lower end of the body, against which the upper ends of the cutters come when expanded, and that those shoulders are inclined downwardly and outwardly. Was that feature your invention?

A. Yes, sir.

XQ. 222. And did you show it with the first wooden

(Deposition of Frederick W. Jones.)

model to Edward Double? A. Yes.

XQ. 223. Did you ever meet a man named Jacob S. Brown, a well driller? A. No, sir. [681]

XQ. 224. Did you ever see a reamer known as the Brown reamer?

Mr. LYON.—Objected to as not cross-examination.

A. Yes.

XQ. 225. (By Mr. BLAKESLEE.) Where did you first see them?

Mr. LYON.—The same objections and all questions asked in relation to any such Brown reamer are objected to on the same ground.

A. At Santa Paula.

XQ. 226. (By Mr. BLAKESLEE.) And when?

A. I cannot positively give the date, but it was somewheres in the spring or summer of 1901.

XQ. 227. Was that before the first reamer was made for or by Mr. Edward Double?

Mr. LYON.—Objected to as indefinite and calling for a conclusion and not for a statement of fact, and upon each of the grounds stated in the objections to the other questions.

A. Yes. That was really the commencement of the underreamer career?

XQ. 228. (By Mr. BLAKESLEE.) What was that reamer like?

Mr. LYON.—The same objections, and the further objection that it is incompetent, not the best evidence, and no foundation laid for the introduction of secondary evidence.

(Deposition of Frederick W. Jones.)

A. It was made with two cutters operating on a rod and spring on the inside of the reamer, with a plate on the one side which was bolted to the body. That is as far as I can remember at the present time. The details I do not just remember.

XQ. 229. (By Mr. BLAKESLEE.) Do you remember what made the cutters expand and contract in that reamer, or what they worked over?

Mr. LYON.—The same objection. [682]

A. They worked over a block which was then a part of the body.

XQ. 230. (By Mr. BLAKESLEE.) Did they have shoulders or inward projections on the inner side? A. Yes, sir.

XQ. 231. And did the cutters tilt in expanding and contracting?

Mr. LYON.—The same objection, which will be understood as repeated as to each question asked about the same subject matter, without the necessity of hereafter repeating it on the record.

A. Yes.

XQ. 232. In other words, they swung from their tops, did they not, moving downwardly and inwardly in contracting, and moving outwardly and upwardly in expanding? A. Yes, sir.

XQ. 233. Do you know whether Edward Double saw that Brown underreamer before the first reamer was made by or for him?

Mr. LYON.—The same objection, and that it is not cross-examination.

A. Yes, sir.

(Deposition of Frederick W. Jones.)

XQ. 234. (By Mr. BLAKESLEE.) Did you discuss that Brown reamer with him at that time?

Mr. LYON.—The same objection.

A. Yes. A man by the name of Gilson brought the model to Santa Paula and it was in the office, and I was invited by Mr. Double to come and look at it. That was my first introduction to that reamer.

XQ. 235. (By Mr. BLAKESLEE.) The cutters of that reamer tilted or swung in expanding or contracting in the same way that the cutters of the Canadian reamers did, didn't they?

Mr. LYON.—The same objection. [683]

A. Yes, sir, similarly.

XQ. 236. (By Mr. BLAKESLEE.) Where did Mr. Double send you when he sent you to see this Brown reamer?

Mr. LYON.—The same objection, and that it is assuming facts not testified to by the witness.

A. He invited me into the office—the Union Tool Company's office.

XQ. 237. (By Mr. BLAKESLEE.) At Santa Paula? A. Yes, sir.

XQ. 238. You mean the Union Oil Tool Company. A. The Union Oil Tool Company.

XQ. 239. And what was said and done then and there?

Mr. LYON.—The same objection.

A. As to the details of the conversation, I couldn't say; but one thing was talked over and that was how we could make it, and he and I decided that it was

(Deposition of Frederick W. Jones.)

impossible to build that underreamer the way it was so made at that time.

XQ. 240. (By Mr. BLAKESLEE.) And that was before the first reamer was made for or by Mr. Edward Double? A. Yes, sir.

XQ. 241. Prior to that time had Mr. Double to your knowledge worked up in any way any underreamer which he afterwards made?

Mr. LYON.—Objected to as irrelevant, immaterial and not cross-examination.

Mr. BLAKESLEE.—The witness has testified to the origination of certain reamers by him and also as to his relations with the shop at Santa Paula of the Union Oil Tool Company and with Mr. Edward Double, and at his shop as foreman of that shop, and it is certainly cross-examination to go into the matters pertaining to the genesis of the reamers which the witness has testified that he originated and developed and afterwards sold. [684]

Mr. LYON.—The question of priority of invention between this witness and Edward Double, or the question of whether Edward Double was an original inventor, is not in issue in this case.

Mr. BLAKESLEE.—The record speaks for itself.

(The examiner reads the question to the witness.)

A. Not to my knowledge.

XQ. 242. (By Mr. BLAKESLEE.) Were you familiar with all the work that was being done at the shop at Santa Paula at that time?

A. Yes; I was.

(Deposition of Frederick W. Jones.)

XQ. 243. How frequently did you see Mr. Edward Double during the first half year of 1901?

Mr. LYON.—The same objections are repeated to all these questions in regard to any conversations with Mr. Edward Double by this witness, or any of his acts or doings in connection with Mr. Double, save and except as they refer to the production of the said Jones reamers, and without the necessity of hereafter repeating the same.

A. I was working in the shop and he was there most all the time, and we used to talk about such things very frequently—more so with me than any other one there—as I had been in charge prior to him.

XQ. 244. (By Mr. BLAKESLEE.) And had Mr. Edward Double to your knowledge worked out any underreamer which was afterwards made by or for him prior to the time that you discussed with him at the Santa Paula shop the Swan underreamer and the Canadian underreamer?

A. Not to my knowledge.

XQ. 245. And is that also true, referring to the wooden pocket model and the time you first discussed the same with Mr. Edward Double, and I mean the wooden pocket model of the underreamer like Defendant's Exhibit Fred W. Jones Reamer Type No. 1. [685] A. Yes.

XQ. 246. I show you a copy of United States patent No. 809,570 issued to one F. W. Jones, January 9, 1906, for underreamers, and ask you if you are

(Deposition of Frederick W. Jones.)

the Frederick W. Jones who applied for and obtained this patent?

Mr. LYON.—Objected to as not cross-examination, irrelevant and immaterial to the issues of this suit and to the matter involved herein.

A. Yes, sir.

XQ. 247. (By Mr. BLAKESLEE.) How did you come to assign this patent to Edward Double and Edward North at Los Angeles, California?

Mr. LYON.—Objected to as irrelevant and immaterial, and notice is given that application will be made for the imposition of costs of the taking of this portion of the deposition of this witness, such imposition to be upon the complainant, on the ground that all rules of evidence are violated by going into this matter, it not being in the remotest degree relevant or material to any issues in this case, or cross-examination.

Mr. BLAKESLEE.—The direct examination has dealt specifically with the present witness as an originator of underreamers, and questions have been asked as to the conception of underreamers, and we are testing the memory of the witness in these respects and also developing his activities in these respects.

A. Is it necessary that I should go into details about this?

Mr. BLAKESLEE.—Oh, briefly. Just as much as you want.

A. I was making this reamer while employed by

(Deposition of Frederick W. Jones.)

the California Tool Works at Santa Paula, and I received a notice from the Union Oil Tool Company of Los Angeles not to manufacture any more of these reamers as it was an infringement of the patent which they controlled, and so I assigned the whole business over to them as a consequence. [686]

XQ. 248. Was that other patent a patent to Edward North?

A. I did not do business with Mr. North; I done it with Frederick S. Lyon.

XQ. 249. And he represented the Union Oil Tool Company or Union Tool Company of which Mr. Edward Double whom we have referred to was president? A. Yes, sir.

Mr. BLAKESLEE.—Complainant offers in evidence copy of Jones patent just referred to, as “Complainant’s Exhibit on Cross-examination of Fred W. Jones, copy of Jones U. S. Patent 809,570,” and ask that the same be so marked.

Mr. LYON.—Objected to as not cross-examination, irrelevant, and immaterial to any of the issues of this suit, and needlessly incumbering the record.

(The said patent so offered in evidence is marked “Complainant’s Exhibit on Cross-examination of Fred W. Jones, Copy of Jones U. S. Patent 809,570,” together with the title of the court and cause and the date upon which the said exhibit was offered in evidence.)

XQ. 250. (By Mr. BLAKESLEE.) I show you a copy of U. S. Patent No. 796,197 issued to Edward Double, August 1st, 1905, for underreamer, and ask

(Deposition of Frederick W. Jones.)

you if you know anything about what is shown therein?

Mr. LYON.—Objected to as incompetent, no foundation laid, not cross-examination.

A. I recognize that as an underreamer that was manufactured at Santa Paula by Mr. Double or for him.

XQ. 251. (By Mr. BLAKESLEE.) Were you there when it was first manufactured?

A. I don't know whether I was there when it was first completed or not.

XQ. 252. Did you suggest to Mr. Edward Double any of the features shown in this patent? [687]

Mr. LYON.—Objected to as immaterial and not cross-examination.

A. It is hard for me to remember all the details as to the invention of this reamer; and as to stating the single parts that I assisted or originated in building this or inventing it, I cannot remember.

XQ. 253. (By Mr. BLAKESLEE.) I call your attention to the part marked 10 in this patent and the pin 22 that goes through it and holds it in place, and ask you if you had anything to do with devising and suggesting to Mr. Double that feature?

A. That part of the reamer I do remember. We had quite a discussion on it as in the Brown model that part of it was part of the body and it was impossible to work in behind that block and leave it solid to the body. I advised Mr. Double to put in a block with a pin sufficiently strong to stand the strain.

(Deposition of Frederick W. Jones.)

XQ. 254. And you suggested to him putting in that block?

A. To the best of my knowledge I did.

XQ. 255. Is that the best of your recollection?

A. Yes, sir.

XQ. 256. And was that the first reamer to your recollection that was made by or for Mr. Double at the Santa Paula shop??

A. I am not sure of that part of it, as I think there was another one made that was finally discarded entirely. But it was made previous to this, I believe, if I remember right.

XQ. 257. Did you suggest other features of this device shown in this patent No. 796,197, to Mr. Double?

A. Well, there isn't any doubt but what we discussed the thing pretty thoroughly, but to go into the details and mention the things, I cannot do it. My memory is not clear enough on the subject at this date to take it in.

XQ. 258. Do you remember any portion of the device shown in this patent No. 796,197 which Mr. Edward Double suggested? [688]

A. Well, now, that I couldn't say. As I said before, the thing was pretty well threshed out both ways by both of us, and what particular part each one advanced I am not able to say. I remember all the conversation we had at the time in regard to underreamers, or about that time at least. Mr. Double tried to get the exclusive right to manufac-

(Deposition of Frederick W. Jones.)

ture the Swan underreamer, as we had found out that the underreamer was going to be quite an extensive business, and he got in touch with the Swan, and he found that the Lydecker people were making the Swan reamer for Mr. Swan. And then we discussed the thing and we decided that we had to get up some kind of an underreamer to build up the business, as it was very essential at that time for the oil well business.

XQ. 259. You are not able, however, are you, to pick out any feature of this device as shown in U. S. Patent No. 796,197 which Mr. Edward Double suggested?

A. No; I cannot be sure. It is a long time since I had my mind on that.

XQ. 260. The idea of expanding the cutters of the reamer of this patent over the block by means of shoulders 17 on the cutters, irrespective of the mounting of the block 10, so that it could be removed, was borrowed from the Brown reamer you have referred to and from the Canadian reamer you have referred to, wasn't it?

Mr. LYON.—The same objection as noted to the questions asked the witness with reference to such Canadian and Brown devices, and as irrelevant and immaterial, the material fact being that that existed prior to any alleged conception of the invention by the complainant, of any part of the device *if* the patent in suit.

A. Yes; I believe it was.

(Deposition of Frederick W. Jones.)

XQ. 261. (By Mr. BLAKESLEE.) And the hollow-slotted extension of this reamer of this patent, in which this spring-actuated [689] rod that held the cutters, together with the key 8, was borrowed from the Swan reamer that you have referred to, was it not?

Mr. LYON.—The same objection. It is not cross-examination. The question of the validity of the Double patent No. 796,197 is not involved in this case. It is a printed publication as of its date and competent in evidence as such printed publication as well as being competent in evidence as a patent.

A. I could not say.

XQ. 262. (By Mr. BLAKESLEE.) The same action takes place, does it not, with the spring-actuated rod and key in pulling the cutters up and lowering them?

Mr. LYON.—The same objection.

A. Yes, sir.

XQ. 263. (By Mr. BLAKESLEE.) And the same sort of a tilt of the cutters takes place as took place in the Canadian reamer to which you have referred? Is that not so?

Mr. LYON.—The same objection.

A. Very similar.

Mr. BLAKESLEE.—The record in this case will show that the patent just referred to and discussed with the witness is the same as Defendant's Exhibit Double Patent No. 3.

XQ. 264. I now show you Defendant's Exhibit

(Deposition of Frederick W. Jones.)

Swan Patent and ask you if the drawings of the same correspond with the Swan reamer to which you have referred in your testimony?

Mr. LYON.—The question is objected to as incompetent, no foundation laid, the witness not having qualified to answer the question, and not cross-examination and as incompetent and not the best evidence, calling for a conclusion of the witness, and not for a statement of facts, no foundation laid for the introduction of secondary evidence.

A. I recognize this as a Swan underreamer that I have had to do with or been in connection with.

[690]

XQ. 265. (By Mr. BLAKESLEE.) And the one you have testified about before? A. Yes.

XQ. 266. Are you accustomed to reading working drawings, shop drawings and other drawings, and have you been so accustomed in your shop work?

A. Yes, sir; I studied mechanical drawing.

XQ. 267. I now show you Defendant's Exhibit Double Patent No. 1 and ask you if you ever saw an underreamer substantially like that shown in the drawings of this patent?

Mr. LYON.—Objected to as not cross-examination and as incompetent, no foundation laid, the witness not having qualified to answer the question.

A. I recognize that as the reamer that Mr. Double manufactured.

XQ. 268. (By Mr. BLAKESLEE.) You mean the same Edward Double to whom we have referred?

A. Yes, sir.

(Deposition of Frederick W. Jones.)

XQ. 269. Did you have anything to do with the devising or getting up this reamer?

Mr. LYON.—Objected to as not cross-examination, irrelevant and immaterial to the issues of this case.

A. I cannot remember that I did.

XQ. 270. (By Mr. BLAKESLEE.) Was this gotten up before or after the underreamer of Double Patent No. 3 which you have just discussed?

Mr. LYON.—Objected to as incompetent, the witness not having qualified to answer the question, and calling for a mere conclusion of the witness.

A. To the best of my knowledge this reamer was made first.

XQ. 271. (By Mr. BLAKESLEE.) You mean the reamer of Double Patent No. 3? [691]

A. Yes; to the best of my knowledge it was made first. I may be mistaken.

XQ. 272. Prior to any time that Mr. Edward Double worked upon the reamer shown in the drawings of Defendant's Exhibit Double Patent No. 1, as far as your knowledge goes, did you discuss such reamer and this patent No. 1 with Mr. Edward Double?

Mr. LYON.—Objected to as incompetent, irrelevant and immaterial to the issues of this case, and not cross-examination.

A. I do not remember.

XQ. (273. (By Mr. BLAKESLEE.) And do you remember discussing this reamer of Defendant's Exhibit Double Patent No. 1 with Mr. Edward

(Deposition of Frederick W. Jones.)

Double at Santa Paula before any such reamers were made by or for him?

Mr. LYON.—The same objection.

A. I cannot say at the present time.

XQ. 274. (By Mr. BLAKESLEE.) The shoulders 18 of this patent No. 1 follow the shoulders of the Brown reamer you have referred to and also of the Canadian reamer you have referred to, do they not?

Mr. LYON.—Objected to as not cross-examination and as incompetent and not the best evidence, calling for the conclusion of the witness, no foundation laid for secondary evidence, irrelevant and immaterial to to the issues of this suit, whether or not Edward Double was the originator or first inventor of the subject matter of Defendant's Exhibit Double Patent No. 1 not being in issue.

XQ. 275. (By Mr. BLAKESLEE.) Prior to the time any underreamer was made by or for Mr. Edward Double to your knowledge having a hollow-slotted extension at the bottom of the reamer like that shown in Defendant's Exhibit Double Patent No. 1 and Double Patent No. 3, or tilting cutters like those shown in those Double patents, or shoulders on the inner faces of the [692] cutters like those shown in those patents, you had discussed such underreamer features with Mr. Edward Double at Santa Paula, California, had you not?

Mr. LYON.—The same objection.

A. Yes.

(Deposition of Frederick W. Jones.)

XQ. 276. (By Mr. BLAKESLEE.) And the block 10 of Defendant's Exhibit Double Patent No. 3, which you say you suggested to Mr. Double, was to do the same work, as far as helping in the expansion and contraction of the cutters, as the solid part 6 at the lower end of the body of the reamer of Defendant's Exhibit Double Patent No. 1, was it not?

Mr. LYON.—The same objection.

A. Yes, sir.

XQ. 277. (By Mr. BLAKESLEE.) Referring now to Defendant's Exhibit Double Patent No. 2, I call your attention to the lugs 10 shown in the drawings and ask you if you know anything about the providing of those upon the cutters of the reamer?

Mr. LYON.—The same objection.

A. I don't remember anything about that feature of it.

XQ. 278. (By Mr. BLAKESLEE.) Did you discuss this underreamer as shown in this Defendant's Exhibit Double Patent No. 2 with Mr. Double before any such reamers were made by or for him?

Mr. LYON.—The same objection.

A. I do not remember that I did.

XQ. 279. (By Mr. BLAKESLEE.) Can you mention now any feature of Defendant's Exhibits Double Patent No. 1 and Double Patent No. 2 and Double Patent No. 3 which were suggested to you first by Mr. Edward Double?

Mr. LYON.—The same objection.

A. I cannot call them to mind at this time.

(Deposition of Frederick W. Jones.)

XQ. 280. (By Mr. BLAKESLEE.) Do you remember that he made definite suggestions of any such parts to you? [693]

Mr. LYON.—The same objection.

A. It is beyond my recollection.

XQ. 281. (By Mr. BLAKESLEE.) Did anybody else in the shop at Santa Paula to which we have referred produce or suggest any underreamer features like those which were afterwards embodied in the underreamers made by or for Edward Double, and I mean anybody else besides yourself and Mr. Edward Double?

Mr. LYON.—The same objection.

A. To the best of my knowledge there was not.

XQ. 282. (By Mr. BLAKESLEE.) And you feel quite sure, do you, that the underreamer like Defendant's Exhibit Double Patent No. 3 or as shown in the drawings thereof was worked up before the underreamer like that shown in the drawings of Defendant's Exhibit Double Patent No. 1?

Mr. LYON.—Objected to as not cross-examination, irrelevant and immaterial to the issues of this suit, and as having been previously answered by the witness.

A. I don't quite get that.

(Question read by the examiner.)

A. To the best of my knowledge it was. I may be wrong on that.

XQ. 283. (By Mr. BLAKESLEE.) And to the best of your recollection the invention of this

(Deposition of Frederick W. Jones.)

Double Patent No. 3 antedated or was prior to the invention of Double Patent No. 1?

Mr. LYON.—The same objection.

A. Yes.

XQ. 284. (By Mr. BLAKESLEE.) To the best of your knowledge and recollection were you at least a part inventor of the underreamer of Double Patent No. 3?

Mr. LYON.—Objected to on all the grounds stated heretofore and calling for a mere conclusion of the witness.

A. Well, I consider that I was. [694]

XQ. 285. (By Mr. BLAKESLEE.) Was any suggestion made to you by Mr. Double that you join him in applying for the letters patent for Defendant's Exhibit Double Patent No. 3 or Defendant's Exhibit Double Patent No. 1?

Mr. LYON.—The same objection.

A. No; I never knew there was a patent being applied for.

XQ. 286. (By Mr. BLAKESLEE.) Has Mr. Edward Double or anyone representing him ever paid you or offered you any money or other consideration of any kind further than what you received in compensation for your services in the shop, and I mean as a workman in the shop, at Santa Paula?

A. No, sir. You had better change that, because that is going to get balled up in this other reamer. I might state the amount I got for that Jones patent to which you have called my attention. It was \$150.

XQ. 287. The only other money you received was

(Deposition of Frederick W. Jones.)

\$150 or thereabouts, altogether, for assigning to Mr. Double and Mr. North Jones Patent No. 809,570?

A. Yes.

XQ. 288. Now, in working up and devising the underreamers which finally were made by or for Edward Double in the shop at Santa Paula, California, you in discussing these matters with Edward Double, referred, did you not, frequently and from time to time to the pocket model like Defendant's Exhibit Fred W. Jones Reamer Type 1, to the Oil Well Supply Company Catalogue of 1896 or '7 showing the Canadian Reamer to the Brown underreamer and to the Swan underreamer?

Mr. LYON.—Objected to as not cross-examination, irrelevant and immaterial to the issues of this suit, incompetent, calling for a conclusion of the witness and not the best evidence, and as assuming facts not in accordance with the record in the case or the evidence, and as assuming facts not appearing from the [695] record.

A. At that time we discussed most all of the makes of underreamers there was in existence.

XQ. 289. (By Mr. BLAKESLEE.) And did you not discuss the ones that I have referred to in my question?

Mr. LYON.—The same objection.

A. Yes.

XQ. 290. (By Mr. BLAKESLEE.) And Mr. Double told you, did he not, at that time, that it was necessary for you and him to work out an under-

(Deposition of Frederick W. Jones.)

reamer which would successfully compete with the Swan underreamer?

Mr. LYON.—The same objection.

A. I don't know that he put it just that way, but he said it was very necessary that we should have or get up a good underreamer for to bring business.

XQ. 291. (By Mr. BLAKESLEE.) And he did not have a good one that he could make in the shop himself at that time, did he?

Mr. LYON.—The same objection.

A. No.

XQ. 292. (By Mr. BLAKESLEE.) Is it not true that recently, before testifying in this case, that you had a talk with somebody representing Edward Double and the Union Tool Company and that they said they would like to buy up your rights or claims, such as they might be, in connection with the Double underreamers? A. No, sir.

XQ. 293. What was said in that connection?

A. There wasn't anything mentioned in regard to paying anything.

(The hour of 12:30 having arrived, an adjournment is now taken by consent until 1:30 P. M., at the same place.) [696]

Saturday, August 14, 1915. 1:30 P. M.

This being the time and place to which the further taking of the deposition of Frederick W. Jones was by consent continued, proceedings are now resumed and the cross-examination of Frederick W. Jones is resumed.

(By Mr. BLAKESLEE.)

XQ. 294. You had a talk with Mr. Frederick S.

(Deposition of Frederick W. Jones.)

Lyon, present here, attorney for the defendant in this case, prior to giving your present testimony, did you not? A. Yes.

XQ. 295. What did you discuss with him?

A. Well, he stated the facts of the case; that there was a—I suppose you would call it a suit, would you not?—between Mr. Wilson and the Union Oil Tool Company, and that he knew from past experience that I *knowed* a great deal about the underreamer business and its origination here in California, and he came to me for some information which he had positive proof that I could furnish. He knew that I had invented some underreamers and he wanted for me to kind of state as to the dates when these different makes of underreamers were manufactured, and also when they were invented. I think that was about the sum and substance of the conversation as to the underreamer business. Wasn't that about all, Mr. Lyon?

Mr. BLAKESLEE.—Mr. Lyon is not testifying now, so you will have to wait for his deposition till later.

Mr. LYON.—I cannot answer you now.

XQ. 296. (By Mr. BLAKESLEE.) You have not anything further to state? A. No.

XQ. 297. Can you state when the first underreamer like Defendant's Exhibit Fred W. Jones Reamer Type No. 1 was sold?

A. I could not state the exact date, but it was somewhere [697] along about August or September, of 1901.

(Deposition of Frederick W. Jones.)

XQ. 298. And do you know where it was used?

A. Well, they were used in different places, but the first one I think was used in what they call the West-lake Oil Company in Los Angeles.

XQ. 299. Do you know when this type No. 1 reamer—the very one before us—was made?

A. Well, I don't know the exact date, but it was somewhere between May and the time it was sold, I believe, if I remember right.

XQ. 300. What year? A. 1901.

XQ. 301. This very one before us?

A. Yes, sir. This one.

XQ. 302. Do you know where it has been since that time?

A. No; I could not tell. The first time I seen it was yesterday.

XQ. 303. Do you know by whom and where that particular reamer was made?

A. All of this type of reamers that were made were made by myself at Santa Paula.

XQ. 304. At the shop of the Union Oil Tool Company?

A. No; it was made by Skinner and me at the Santa Paula Tool Works. We were partners.

XQ. 305. But you did not leave them until June or July, 1901, I believe you have testified—you did not leave the Union Tool Company?

A. Yes; I left them in the spring. I don't exactly remember the date, but it was somewheres between May or June or somewhere along there.

(Deposition of Frederick W. Jones.)

XQ. 306. That is, you left them sometime in May or June?

A. Yes; as I say, I am not positive as to the date.
[698]

XQ. 307. Why was it you did not continue to make and sell reamers like that Type 1?

A. Well, I got up this reamer No. 2 and I thought it was much better, and therefore, I discontinued the manufacture of the No. 1.

XQ. 308. Was Edward Double or was the Union Oil Tool Company selling any underreamers made by or for Edward Double when you discontinued making reamers like the type No. 1 exhibit?

A. I believe they were, to the best of my knowledge.

XQ. 309. Do you know to what extent?

A. No, I do not. It was certainly not to any great extent, because the underreamers business then was in its infancy.

XQ. 310. Swan reamers had been used for some time and Austrians, before that, hadn't they?

A. Yes, sir.

XQ. 311. When you stated that "we made several reamers" like type No. 2, and that you shipped several to Florence, Colorado, do you mean you and Mr. Skinner? A. Yes, sir.

Q. 312. What do you know about the working of this type No. 2 reamer of which you say you sold several? Do you know that it worked *satisfactorily*?

A. Well, it did in one sense of the word, and then it didn't, in another. Of course, I never used the

(Deposition of Frederick W. Jones.)

reamers and I cannot speak from actual experience. I had to take the say-so of the men that handled the reamers and the people that sold them. The reamers that were used here, I think with the exception of one, gave fairly good satisfaction.

XQ. 313. Were you ever present when one was run into the oil well hole or withdrawn from the hole?

A. No; I never was. [699]

XQ. 314. Then you don't know anything as to the success of the operation of these type 2 reamers with the exception of what was told you?

A. That is all.

XQ. 315. Didn't you hear, as a matter of fact, that in some instances they did not work well?

A. Yes, sir, we did, I suppose, like most all reamers. There is some that don't give satisfaction and sometimes they do.

XQ. 316. And some of these cutters like those of type 2 broke, didn't they? A. Yes, sir.

XQ. 317. Why did you discontinue selling reamers like this type 2 reamer?

A. One reason was that we agreed to disagree and go out of business, and we had to come in competition with other reamers that were being put on the market at that time which were being sold for less money.

XQ. 318. And before long the reamers made by or for Edward Double came into competition with this type 2 reamer? A. Yes, sir.

XQ. 319. Now, was there not trouble in getting this type 2 reamer into the casing?

(Deposition of Frederick W. Jones.)

A. Not to my knowledge. There might have been.

XQ. 320. Did you hear of such trouble?

A. No; I don't remember. I know they had trouble getting them out when they got them in, sometimes.

XQ. 321. Do you know why that was?

A. No; I can't say.

XQ. 322. And these type 2 reamers were made during part of 1901 and 1902 by you and Mr. Skinner at Santa Paula? A. Yes, sir.

XQ. 323. And not after that year?

A. No; not after 1902. [700]

XQ. 324. How many all together were made approximately?

A. Well, I couldn't say, but I should judge maybe there might have been ten or a dozen.

XQ. 325. That is, of type 2? A. Yes.

XQ. 326. And of these how many were sold?

A. They were all sold, or, at least, we got the pay for them.

XQ. 327. And were some of them returned?

A. No.

XQ. 328. Were any rebates asked for any of them?

A. No; I had two for my own individual use, and I used to keep them at Santa Paula there to rent out to different parties. That was the 95/8 and 75/8.

XQ. 329. When was it that you went to the Los Angeles Tool Works to have parts for these reamers made?

A. It was some time in 1901, along in the fall, I

(Deposition of Frederick W. Jones.)

believe, or winter. I don't remember just what date.

XQ. 330. Those parts were shipped up to Santa Paula to be assembled by you and Mr. Skinner?

A. Yes, sir.

XQ. 331. And it was then that you saw Ed. Mills or Mr. Close? A. Yes, sir.

Mr. BLAKESLEE.—That is all.

Redirect Examination.

(By Mr. LYON.)

RDQ. 332. You have been asked some questions with reference to a conversation which you had with me prior to going on the stand. That conversation was held at your ranch at McFarland on Tuesday, August 3d, 1915, and in the presence of your wife and Mr. B. N. Yonkin, was it? [701]

A. I guess so; yes.

RDQ. 333. That was the time and place?

A. Yes.

RDQ. 334. How long had you known me prior to that time?

A. I think the first time that I have got acquainted with you was at the Mills hearing.

RDQ. 335. That was when you gave testimony in the interference proceeding between an application of Edward E. Mills for a patent on an underreamer—on what is known as the National or Mills Underreamer,—and the application of Edward Double, Serial No. 135,792, December 18, 1902, referred to as Defendant's Exhibit Double Patent No. 3?

A. Yes.

RDQ. 336. And at that time you knew that Mr.

(Deposition of Frederick W. Jones.)

Double had pending an application for letters patent upon that underreamer and claimed to be the inventor thereof, did you?

A. I believe so. I am not positive about it—whether I knew it at that time or not.

RDQ. 337. And you gave testimony in that case on behalf of Mr. Mills, did you? A. Yes.

RDQ. 338. And that testimony was given on August 10, 1903, at Los Angeles, California?

A. Wasn't some of that testimony given at Santa Paula?

RDQ. 339. Not by you. I show you the record.

A. Well, it was given in Los Angeles, if it was not at Santa Paula. I remember giving it, but I forget just where.

(The witness looks at the record in said interference.) Yes.

RDQ. 340. At that time you made no claim to being the inventor of the subject matter of such interference, did you?

Mr. BLAKESLEE.—Objected to as calling for an interpretation [702] testimony of the witness and not the best evidence. The record speaks for itself.

A. I think not.

RDQ. 341. (By Mr. LYON.) I show you a transcript of your testimony and call your attention to question 10 which is as follows: "Did you have a conversation with Mr. Double in reference to this reamer, and if so, state the conversation," such reamer being the reamer shown and described in Defendant's Exhibit Double Patent No. 3, and your an-

(Deposition of Frederick W. Jones.)

swer was as follows: "While I was employed by Mr. Double, at the same time he was manufacturing this reamer in question. I had a conversation with him, and he said the reamer was a mean thing to manufacture; that he would change the construction of it, and he showed me what changes he proposed to make, and he also asked me what I thought of the change, and I told him I thought the change was a good one; that is all." Then question 11: "Where was this conversation? A. At Santa Paula, in his office. I think it was along about the last of June or first of July. I can't state the date exactly. 1901." Those are the questions asked you and you gave that testimony, did you?

A. I think that is correct, to the best of my memory.

RDQ. And that testimony was true and correct, was it? A. I think it was.

RDQ. 343. To question 15 of said deposition you stated that you left the employ of Mr. Double along about the 15th day of July, 1901, did you?

A. I expect that *it* right, because that was fresher in my memory than it is now.

RDQ. 344. On cross-examination in that same deposition you were asked the following question: "You were manufacturing an underreamer in September and October, 1902, were you not"? And your answer was, "Yes, sir," and XQ. 9. "You had placed one of your underreamers with R. H. Herron Company of Los Angeles [703] for sale, had you not, on October 1st, 1902? A. I sold a reamer to R. H.

(Deposition of Frederick W. Jones.)

Herron." That is a correct statement of your testimony given at that time? A. I expect it is.

RDQ. 345. I show you the record. A. Yes.

RDQ. 346. Isn't it a fact, Mr. Jones, that one of the reasons, or among the reasons why you discontinued the manufacture of the reamers like Defendant's Exhibit Fred W. Jones Reamers Types 1 and 2 was that you had received a letter from Los Angeles dated in November, 1902, signed by Townsend Brothers and by Frederick S. Lyon, notifying you that the manufacture of such reamers was claimed to be an infringement of the patent rights of Edward Double and the Union Oil Tool Company?

Mr. BLAKESLEE.—Objected to as leading.

A. No, sir.

RDQ. 347. (By Mr. LYON.) You don't remember receiving such letter?

A. I didn't receive no such letter.

RDQ. 348. You knew at that time, however, that that claim was made?

Mr. BLAKESLEE.—The same objection.

A. That was on the other reamer after that when I was employed by the California Tool Company. If you remember right I was employed by the California Tool Company at that time, and the letter came to me, and I had a reamer hanging up in the shop on exhibition. That was a reamer of the North pattern.

RDQ. 349. (By Mr. LYON.) That is the way you were cross-examined on the Jones patent?

A. Yes, sir.

(Deposition of Frederick W. Jones.)

RDQ. 350. Now, something over two years prior to that and before you made a reamer of that type, and in the fall of [704] 1902, to refresh your recollection, are you positive that you did not receive a notice that the manufacture of reamers like the Defendant's Exhibit Fred W. Jones Reamers Types 1 and 2, or either of them, was an infringement on the patent rights of Edward Double and the Union Oil Tool Company?

Mr. BLAKESLEE.—Objected to as leading and as an apparent attempt of counsel to impeach his own witness.

A. I can positively testify that I did not—not on the No. 1 and No. 2 model. There was never any dispute about my reamers until I manufactured a No. 3, and then I got a notice. I believe that the notice came from you stating that I must quit or stop the manufacture of a certain underreamer which the Union Oil Tool Company held the patent right to, and I got on the train right then and went down and seen you and seen Mr. North and we settled the thing up before I came away, and the patent then was still pending, and you took over the papers and proceeded to take out the patent and the patent was taken out some months afterwards.

RDQ. 351. (By Mr. LYON.) That is the one you have identified here as the Jones patent?

A. Yes, sir.

RDQ. 352. And the one for which you say you received \$150? A. Yes, sir.

RDQ. 353. And you assigned that to Edward

(Deposition of Frederick W. Jones.)

Double and Edward North?

RDQ. 354. You made no claim at that time, did you, to having been the inventor of any part of any of the Double underreamers?

Mr. BLAKESLEE.—Objected to as leading.

A. I did not, because I didn't think it was necessary. In judging the facts of the case, I didn't want to press my case against the Union Oil Tool Company for several reasons. [705]

RDQ. 355. (By Mr. LYON.) In this conversation which you had with me in the presence of Mr. Yonkin and your wife on Tuesday, August 3d, 1915, at your ranch near McFarland, California, you stated to me, did you, that after the building of the first Double reamer like Defendant's Exhibit No. 3, you conceived the idea of this type 1 underreamer and went to work making a model of it, but that you did not show it to Mr. Double or tell him anything about it, and did not do anything with it toward making one of them till after you left the employ of the Union Oil Tool Company and had gone in with Mr. Skinner.

Mr. BLAKESLEE.—Objected to as leading and not the proper method of proof and as an apparent attempt of counsel to impeach his own witness.

A. Mr. Lyon, you have made a mistake. You have referred to the wrong model. The model that you intend there is the brass model that I have now. The first one was a wooden model of No. 1 and I had in the shop with me and had it in the shop while I was working for Mr. Double.

RDQ. 356. (By Mr. LYON.) Now, will you

(Deposition of Frederick W. Jones.)

please answer the question yes or no?

A. Let me get that question again.

RDQ. 357. The question was, did you not tell me in that conversation that you did not show Mr. Double either of these types of reamers at any time while you were in the employ of the Union Oil Tool Company; that you kept them to yourself until you had left the employ of that company?

Mr. BLAKESLEE.—Objected to as indefinite and not a restatement of the previous question, because there is no definite reference to the particular reamers or types referred to.

A. In answer to the question I will say no. I said though that the model of No. 2 had never been shown to Mr. Double or anyone around the shop, but the model No. 1 had. [706]

RDQ. 358. (By Mr. LYON.) Did you state to me in that conversation—

A. Oh, Mr. Lyon, you are mistaken there. I did not.

RDQ. 359. Did you have any conversation at all with me in regard to the type 1 reamer?

A. Very little, because you said in the fore part of the conversation that that model reamer was not under discussion and it was a model that I had in my mind that we went up to the ranch and found, and that is the one you think I kept secret from Mr. Double. But that was wrong. Now, I intend to be honest about that with you.

RDQ. 360. You had a conversation with Mr. B. N. Yonkin at your ranch on Monday, August 2, 1915,

(Deposition of Frederick W. Jones.)

the day before you had the conversation with me?

A. It was on Sunday.

RDQ. 361. The Sunday previous to the conversation with me? A. Yes, sir.

RDQ. 362. Did you state to Mr. Yonkin at that time that Mr. E. C. Wilson had been up to see you within two or three weeks past?

Mr. BLAKESLEE.—Objected to as leading.

A. Yes, sir.

RDQ. 363. (By Mr. LYON.) And that you had a letter of his that you have not yet answered?

A. Yes, sir.

Mr. BLAKESLEE.—The same objection.

RDQ. 364. (By Mr. LYON.) And that Wilson was trying to get you to bring a suit against the Union Tool Company and Double?

Mr. BLAKESLEE.—The same objection, and not the proper method of proof. Let the witness state the whole substance of the conversation as he recollects it. [707]

A. He mentioned the fact that he thought that I was entitled to just compensation for my work that I had done towards the Union Tool Company in helping to get up that reamer.

RDQ. 365. (By Mr. LYON.) When you say "he" you mean Mr. E. C. Wilson?

A. Mr. E. C. Wilson; yes, sir.

RDQ. 366. What was said in regard to the bringing of such a suit by you at that time?

A. I don't know that there was anything mentioned further than that; that he suggested that I

(Deposition of Frederick W. Jones.)

ought to have my rights.

RDQ. 367. Didn't you tell Mr. B. N. Yonkin on on that Sunday at your ranch that Mr. Wilson was trying to get you to bring a suit against the Union Tool Company and Mr. Double on that account?

Mr. BLAKESLEE.—Objected to as leading, not the proper method of proof, and further on the ground that neither of the parties to the litigation are shown to have been present.

A. I may have mentioned it in that form that I have just mentioned it.

RDQ. 368. (By Mr. LYON.) You had further conversation with Mr. E. C. Wilson for quite a considerable period of time this morning before going on the stand here as a witness?

A. Just a few minutes.

RDQ. 369. And it was some little after 9 o'clock before you appeared, and the delay being caused by your conversation with Mr. Wilson, wasn't it?

A. Well, yes. I was in here once before and there was no one here, and so I went out, and I met Mr. Wilson on the street, and we got into a conversation about what was going to come off.

RDQ. 370. And you were talking with him about three-quarters of an hour.

A. No; hardly that long. I don't think it was over twenty minutes.

RDQ. 371. When I called upon you at your ranch upon the [708] *the* date referred to you stated to me, did you, that Mr. Wilson had offered you money if you would come to Los Angeles and testify in his behalf?

(Deposition of Frederick W. Jones.)

Mr. BLAKESLEE.—Objected to as leading and not redirect examination and not the proper method of proof and not the proper method of proving a conversation.

A. He had offered to pay my expenses.

RDQ. 372. (By Mr. LYON.) And how much else? A. And mileage.

RDQ. 373. And what else?

A. That was all.

RDQ. 374. Did you not state to me in the presence of Mr. Yonkin and your wife that he offered to pay you your own expenses and five dollars a day?

Mr. BLAKESLEE.—The same objection.

A. I don't remember that he did; I don't remember saying that.

RDQ. 375. (By Mr. LYON.) And in such conversation with me did you not state that you wanted a thousand dollars and your expenses to come to Los Angeles to give testimony in this case?

Mr. BLAKESLEE.—The same objection, and on the ground that it is an apparent attempt of the defendant to impeach its own witness, called by it.

A. I mentioned the fact that if my interests in the invention of this reamer was worth anything, it ought to have been worth a thousand dollars. That was the conversation that took place in regard to the money matters.

RDQ. 376. (By Mr. LYON.) And did you not refuse to come to Los Angeles on behalf of defendant in this case unless you were given your expenses and a thousand dollars?

(Deposition of Frederick W. Jones.)

Mr. BLAKESLEE.—The same objection.

A. No, sir.

RDQ. 377. (By Mr. LYON.) Was there any conversation to that effect? [709]

Mr. BLAKESLEE.—The same objection.

A. No, sir.

RDQ. 378. (By Mr. LYON.) Now, please tell us what Mr. Wilson said to you this morning.

Mr. BLAKESLEE.—Objected to as not proper redirect examination and an apparent further attempt to impeach its own witness.

A. In the first part of the conversation we talked about the model reamer No. 1 and he asked if I had got that reamer up, and I told him that I had, and the conversation finally led on to No. 2, and I gave him the facts of the case as they have been stated here before this tribunal.

RDQ. 379. (By Mr. LYON.) Did you have any conversation of any kind with him this morning in regard to compensation? A. None whatever.

RDQ. 380. Have you the letters you received from Mr. Wilson and the telegram?

A. No, sir.

RDQ. 381. Where are they?

A. I don't know that I have got them.

RDQ. 382. How many of such letters and telegrams have you received?

A. I received three telegrams and I think four letters.

RDQ. 383. When did you receive the last of such telegrams? A. Last evening.

(Deposition of Frederick W. Jones.)

RDQ. 384. And when were such telegrams sent to you?

A. It came after dark, and I asked the party that delivered the telegram to telephone Mr. Wilson that I would be here this morning.

RDQ. 385. Have you such telegram with you?

A. No, sir; I have not, The man that brought it out put it in his pocket and took it off with him.

RDQ. 386. Do you remember what was in that telegram?

A. He said it was—I don't just remember the words, but it meant that it was urgent or important that I should meet [710] him here. The second telegram was that I should meet him—asking me to meet him at his hotel, and I answered the telegram and told him that I couldn't do it. Then Mr. Yonkin came out with his subpoena and I was bound to come, and so I got Mr. Wilson's telegram afterwards and I had this friend telephone to this hotel to tell Mr. Wilson that I would be here. That was the sum and substance of the telegrams that went on between us.

RDQ. 387. When did you receive the first of those telegrams?

A. I think it was day before yesterday. I am not positive, though.

RDQ. 388. In which one of those telegrams was it that Mr. Wilson asked you if you had made a deal with the Double or Union Tool Company?

A. He didn't ask me if I had made a deal. He asked me—I don't just exactly remember what the

(Deposition of Frederick W. Jones.)

words were in the telegram, but it was to the effect that if I had been subpoenaed or compelled in any way to give evidence. I can't remember just the words of it. I telegraphed back to him that I had not.

Mr. LYON.—We demand from plaintiff copies of telegrams sent to this witness, particularly copies of all telegrams or letters sent to him by the complainant since the notice was given that his deposition would be taken in this case, and copies of the letters written to this witness in regard to the subject matter of these depositions, referred to by the witness, and the witness is notified that if he has any such letters in his possession to forward them to the Special Examiner, I. Benjamin, at his Los Angeles office. Mr. Benjamin will give you one of his cards. And we ask that such letters be appended to the deposition.

Mr. BLAKESLEE.—We are not aware that there can be any proper demand made for any correspondence had between complainant [711] and this witness prior to the notification that he would be a witness for complainant in this case. As to any telegrams which were transmitted to this witness after notification that he would be a witness in this case, we are willing to furnish copies of same if we have them, and if we have them will do so, unless the witness can furnish the original telegrams himself, and we ask the witness if any correspondence took place between him and Mr. Wilson, aside from these telegrams, subsequent to Tuesday of this week, upon which day informal notice was given to counsel for

(Deposition of Frederick W. Jones.)

complainant that this witness would be called by defendant. Will you answer that, Mr. Jones?

A. I don't quite get that. (Question read by the Examiner.) No, sir.

RDQ. 389. Have you had any letters from Mr. Blakeslee at any time with reference to these matters? A. No, sir.

Mr. BLAKESLEE.—Nor have you written any letters? A. None whatever.

Mr. BLAKESLEE.—Nor did you ever meet me or hear from me at any time prior to this morning?

A. No, sir.

RDQ. 390. (By Mr. LYON.) As a part of the conversation which you had with me on August 3d, 1915, I stated to you at that time, did I, that you had no rights in any of these underreamer matters that could be purchased by anyone anyway, and that you had nothing to sell to the Union Tool Company or to Mr. Double?

Mr. BLAKESLEE.—Objected to as leading, not proper method of proof and an attempt to testify by counsel himself and not the witness, and not redirect examination.

A. Nor I have nothing to sell now.

Mr. BLAKESLEE.—We move that the answer be stricken out as not responsive to the question. [712]

A. I have first to establish my claim.

RDQ. 391. (By Mr. LYON.) I made that statement to you, didn't I?

Mr. BLAKESLEE.—The same objection.

A. Yes.

(Deposition of Frederick W. Jones.)

RDQ. 392. (By Mr. LYON.) And told you that either party, if they wanted your testimony, could subpoena you and you would be compelled to give your testimony, and that you knew that I knew of my own knowledge in regard to the facts of this case?

Mr. BLAKESLEE.—The same objection.

A. Yes.

Mr. BLAKESLEE.—Here is the only copy we can find. “Frederick W. Jones, McFarland, Cal. Lyon notifies me of taking your testimony Bakersfield nine to-morrow. Think it wise you meet me Southern Hotel seven-thirty. E. C. Wilson.”

RDQ. 393. (By Mr. LYON.) During your cross-examination you stated that you rented at different times underreamers of both Defendant’s Exhibit Fred W. Jones Reamer Types 1 and 2 to various persons during the fall of 1902. Was the rental therefor paid?

A. You made a mistake there. Exhibit 1 was never rented, but exhibit 2 was rented and some of the rental was collected, but not all.

RDQ. 394. Did you ever rent the same reamers to the same parties more than once?

A. Yes; I think so.

RDQ. 395. And when such reamers were returned to you after such rental, what did the users have to say in regard to the reamer?

Mr. BLAKESLEE.—Objected to as not the proper method of proof, which would be to call in such parties, not proper redirect examination, and that it should have been gone into upon the direct examina-

(Deposition of Frederick W. Jones.)

tion of this witness if at all. [713]

A. The report of the users of this reamer varied. Some liked it and some didn't like it.

RDQ. 396. (By Mr. LYON.) Did the fact that some of the users did not like it have any weight on your discontinuing the manufacture of it?

A. I don't think so.

RDQ. 397. Explain to us just why you discontinued the manufacture of these reamers.

Mr. BLAKESLEE.—Objected to as not proper redirect examination.

A. I have already stated the reason that we quit manufacturing those reamers.

RDQ. 398. (By Mr. LYON.) You stated that you dissolved partnership with Mr. Skinner.

A. And on account of the competition that was brought to bear upon us.

RDQ. 399. After dissolving partnership with Mr. Skinner what business did you go into?

A. I went to run the shop of the California Tool Company.

RDQ. 400. As an employee of that company?

A. Yes, sir.

RDQ. 401. Did you make any arrangement of any kind with the Los Angeles Well Tool Works for the manufacture of reamers like Defendant's Exhibit Fred W. Jones Reamer Type 2, either on royalty or for them to make and sell them?

A. I don't think I did. They made one reamer, I believe.

RDQ. 402. Do you know what became of that

(Deposition of Frederick W. Jones.)

reamer that the Los Angeles Well Tool Works made like Defendant's Exhibit Fred W. Jones Reamer Type 2?

A. Well, I couldn't swear to it, but I believe that that is the reamer laying there.

RDQ. 403. Did they make that reamer for you?
[714]

A. Yes, sir.

RDQ. 404. Why was it left in their possession?

A. That I don't know.

RDQ. 405. I call your attention to the fact that on the body of that reamer appears the name "W. A. Fairbairn." Do you know who this man was?

A. Yes, sir.

RDQ. 406. Who was he?

A. He was a machinist employed by that firm at that time.

RDQ. 407. At the time that you gave this blueprint to Mr. Close to make the reamer?

A. Yes, sir.

RDQ. 408. Now, with relation to the time that you gave your testimony in this Mills vs. Double interference, which you have identified as August 10, 1903, when was it, before or after that date, that you made these reamers like Defendant's Exhibit Fred W. Jones Reamer Type 2, and gave this order to the Los Angeles Tool Works for the making of such reamer?

Mr. BLAKESLEE.—Objected to as not proper direct examination and a further attempt to impeach defendant's own called witness.

(Deposition of Frederick W. Jones.)

A. It was prior to that date.

RDQ. 409. (By Mr. LYON.) You are positive of that, are you? A. Yes.

RDQ. 410. And you so testified in said interference? I call your attention to XQ. 2: "How long have you been manufacturing that underreamer?"

A. Which underreamer have you reference to?—"

A. That was these two here.

RDQ. 411. You mean Defendant's Exhibit Fred W. Jones Reamer Types 1 and 2? [715]

A. Yes, sir.

RDQ. 412. In your conversation with Mr. E. C. Wilson which you had about two or three weeks prior to August 3d, 1915, at your ranch near McFarland, California, did you discuss your reamer of the type of Defendant's Exhibit Fred W. Jones Reamer Type 1, and refer to the wooden model thereof?

A. I don't remember that we did.

RDQ. 413. Did Mr. Wilson at that time tell you that he had that wooden model?

A. Come to think about it, I believe I asked him something about it, but I really forget the conversation that took place, as he mentioned the fact that it was not important—that particular reamer—in this case.

RDQ. 414. Did you see that wooden model at that time during that conversation? A. No.

RDQ. 415. Isn't it a fact, Mr. Jones, that you saw a Double underreamer constructed in substantial accordance with the drawings of Defendant's Exhibit Double Patent No. 1 as early as the first day of June,

(Deposition of Frederick W. Jones.)

1901, completed in the shop of the Union Oil Tool Company at Santa Paula, California?

A. I couldn't state positively as to the date.

RDQ. 416. It was while you were working for that company?

A. We completed one while I was there, but it was not of this type. I think that one is entirely discarded, as I said before. It was a failure.

RDQ. 417. When, according to your present recollection did you first see a Double underreamer built in substantial accordance with the drawings of Defendant's Exhibit Double Patent No. 1, which is now before you?

A. Well, I could not positively say when it was, to be honest with you. [716]

RDQ. 418. You have identified certain testimony that you gave in the so-called Mills-Double interference, particularly question 10 and your answer thereto which have been read into this record already, and question 11 in that deposition was, "Where was this conversation?" And your answer was "At Santa Paula, in his office. I think it was along about the last of June or first of July. I couldn't state the date exactly. 1901." How long after that was it before you saw the first completed Double underreamer like Defendant's Exhibit Double Patent No. 1?

Mr. BLAKESLEE.—We demand that the witness be shown his testimony in the case, as the question is so disjointed that it might refer to a number of different conversations.

(Deposition of Frederick W. Jones.)

Mr. LYON.—The record of the witness' testimony in said interference is handed to him.

A. I couldn't state positively what date it was that the reamer was completed.

Mr. BLAKESLEE.—It will be noted that the entire procedure is a manifest attempt to impeach defendant's own called witness whose testimony it must adopt.

RDQ. 419. (By Mr. LYON.) And in that same deposition on August 10, 1903, you were asked the following questions, and gave the following answers: "XQ. 12. Then you swear that you were never notified by anyone that your underreamer was considered to infringe said patent and inventions by Double and his company? A. I refuse to answer. XQ. 13. Were you not notified that suit would be brought against you for infringement of letters patent by Mr. Double and his company if you continued to manufacture said underreamer? A. I refuse to answer." That is correct? I show you the record.

Mr. BLAKESLEE.—The same objection.

RDQ. 420. (By Mr. LYON.) Those are the questions and answers? [717]

A. I expect it was. I couldn't swear. My memory is not as fresh as it was at that time.

RDQ. 421. You testified at that time as I have read? A. Yes, sir.

Mr. LYON.—That is all.

Recross-examination.

(By Mr. BLAKESLEE.)

RXQ. 422. At any time prior to testifying in

(Deposition of Frederick W. Jones.)

this case, have you had a conversation with Thomas J. Griffin, present in this room?

A. I never saw the man before to-day nor did I ever have a conversation with him before giving my testimony. I believe though I would know him again.

RXQ. 423. How much of a talk did you have with Mr. Yonkin before testifying to-day?

A. I have talked with Mr. Yonkin three different times, but I have not talked to him to-day at all on this question.

RXQ. 424. Any previous times that you talked with him about these reamers, types 1 and 2?

A. Yes.

RXQ. 425. And he said that the Union Tool Company, defendant in this case, and Mr. Lyon, its attorney, would wish to have you testify for the defendant? A. Yes, sir.

RXQ. 426. Did Mr. E. C. Wilson, present here, the complainant in this case, ever at any time pay you any money or other consideration of any sort directly or indirectly? A. No, sir.

RXQ. 427. You had wired Mr. Wilson yesterday before receiving the wire a copy of which has been put in the record that you could not meet him here at Bakersfield to-day? [718]

Mr. LYON.—Objected to as not the best evidence, no foundation laid for the introduction of secondary evidence, and the defendant demands the production of such telegrams and correspondence.

RXQ. 428. (By Mr. BLAKESLEE.) Have

(Deposition of Frederick W. Jones.)

you a copy of any such wire? A. No, sir.

RXQ. 429. This morning in conversation with you I stated to you, did I not, that it was only right and proper that you should give me a chance to talk with you before you testified in this case, inasmuch as I had been notified or the complainant had been notified that you would be a witness for the defendant in this case? A. Yes, sir.

RXQ. 430. Did I not tell you in that conversation that all we wanted was the plain facts concerning these various matters to be testified about by you? A. Yes, sir.

RXQ. 431. As a matter of fact, you cannot recollect, can you, that Mr. E. C. Wilson, present here, told you at any time prior to this morning about any wooden model of a reamer like type 1 before us?

A. Well, I think that he mentioned something about a wooden model when he was up to my place.

RXQ. 432. He did not ever describe it to you, did he? A. I think not.

RXQ. 433. And you would not be able to say what that reamer was like now at all?

A. No. From what he could tell me of it.

RXQ. 434. Nor would you be able to describe it now from anything he may have said about it at any such time?

Mr. LYON.—Objected to as calling for a mere conclusion [719], of the witness and not the proper method of proof of a conversation.

A. Well, there is only one reamer made with that rounding point, and if anybody ever says anything

(Deposition of Frederick W. Jones.)

to me about a reamer with a rounding point on it, I recognize it instantly, because it is the only one that was ever made. And that is all that he has got to mention, because I know it then. And it seems to me to the best of my knowledge that he mentioned something about this model being rounded at the point. Now, I am not positive about that.

RXQ. 435. (By Mr. BLAKESLEE.) You will not testify under oath that he said anything to you about it? A. No, sir; I cannot.

RXQ. 436. And you are not, as a matter of fact, sure that it was not this morning and only this morning that he referred to such a wooden model in talking to you? Is that correct? A. That is correct.

RXQ. 437. What was the history of this wooden model of which there are three photographs in evidence and which we discussed this morning, after you made it?

A. I don't quite get the question. (Question read by the examiner.) In what way, do you mean?

RXQ. 438. What was done with it after you completed it?

A. If I remember right, I made several of those wooden models and distributed them in different places in the state for exhibition purposes only, as they were all made of wood and made for a $7\frac{5}{8}$ size and just the same shape and proportion as the steel ones would be made.

RXQ. 439. Did one of them go to Newhall, California—at the Newhall Tunnel on the Southern Pacific?

(Deposition of Frederick W. Jones.)

A. Yes; I remember taking one to Newhall and leaving it in the saloon, there. [720].

RXQ. 440. Who ran the saloon?

A. I think the man's name was Pardee.

RXQ. 441. Is that the last you heard of that particular one? A. I believe it is.

RXQ. 442. So far as you know?

A. Yes, sir.

RXQ. 443. Isn't it true that Edward Double whom we have referred to heretofore, gave you to understand when you were in the shop at Santa Paula of which he was foreman, that you being an employee of that shop and he being the foreman of it, that anything that you invented belonged to him?

Mr. LYON.—Objected to as calling for the conclusion of the witness, incompetent, and not the proper method of proof, and on the further ground that it is irrelevant and immaterial in this case, and not cross-examination.

A. I don't think that he did.

RXQ. 444. (By Mr. BLAKESLEE.) Did you have any talks of that sort at that time?

Mr. LYON.—The same objection.

A. Yes. And what had given me the idea was that I had read of cases of that kind where employees had got up inventions and the companies employing them had demanded them and had succeeded in getting possession of them.

RXQ. 445. (By Mr. BLAKESLEE.) Were you paid by that shop or by Edward Double or by any-

(Deposition of Frederick W. Jones.)

body else in connection with that shop to do any actual inventing?

Mr. LYON.—The same objection.

A. No, sir.

RXQ. 446. (By Mr. BLAKESLEE.) While you were there under Mr. Double as foreman, you were paid as a machinist, were you not?

A. Yes, sir. [721]

RXQ. 447. In the testimony you have been referred to—in the Double-Mills interference—with relation to a certain change that was talked about when Mr. Double said the reamer was a mean thing to make, the change suggested was from the removable block at the lower end of the reamer like that shown in the drawings of Defendant's Exhibit Double Patent No. 3, to a stationary part at the lower end of the body of the reamer like part 6 of Defendant's Exhibit Double Patent No. 1, over both of which parts the cutters expanded. Was that not correct?

Mr. LYON.—Objected to as irrelevant and immaterial to this suit.

A. No. You have made a mistake in the reamers. This block, I have it in my mind, that that block is the first reamer that we made. Now, I am not sure and I can't swear to it, but I have it in my mind now that in the Brown model that block was solid and a part of the body, and we could not work this space out behind it, and so I suggested that we cut that whole thing out and put a block in there, and I have

(Deposition of Frederick W. Jones.)

got it in my mind that that was the first reamer that was made. That is, that was the first one that was ever used. I may be wrong, but that is the way I have it in my mind.

RXQ. 448. (By Mr. BLAKESLEE.) And that was the first one worked out of the reamers Double afterwards made or had made for him?

Mr. LYON.—Objected to as irrelevant and immaterial to the issues of this case, and not recross-examination.

A. Mr. Lyon, do you remember if that was not the original model, simply, No. 1? I can't remember that.

Mr. BLAKESLEE.—You have to testify from your own recollection.

Mr. LYON.—I am sorry, but I cannot take the stand and tell you. [722]

Mr. BLAKESLEE.—Read the question again and answer the best you can, and state what you recollect.

(The question is read by the examiner.) That is, the one with the block as you suggested, and the connected parts to fit in at the bottom of the reamer.

Mr. LYON.—The same objection.

A. I believe it was,

Mr. LYON.—I move to strike the answer from the record on the ground that it is incompetent, and upon each of the grounds stated in the objection.

RXQ. 449. (By Mr. BLAKESLEE.) And what was it Mr. Double told you was mean to make about that reamer?

(Deposition of Frederick W. Jones.)

A. Well, it was the working out of the parts in back of the cutters.

RXQ. 450. And he referred, did he, to the Brown reamer as being mean to make?

A. Yes, sir.

RXQ. 451. And you then suggested this detachable part of the block 10? A. Yes, sir.

RXQ. 452. You have stated that you did not attempt to fight Double and his interests, in connection with your reamer rights, for certain reasons. Was one of those reasons that you did not feel you had money enough to wage such a fight?

A. That was one.

RXQ. 453. What other reasons were there?

A. Well, I had boys coming up and I considered that those boys would want a position some time, and I thought it was best to be on good terms with those people for the benefit of the boys.

RXQ. 454. Had it not been for those reasons, would you have attempted to substantiate your rights to these so-called Double reamer inventions? [723]

Mr. LYON.—The same objection.

A. Possibly.

RXQ. 455. (By Mr. BLAKESLEE.) You still feel, do you, that there are rights which were taken from you in those respects?

Mr. LYON.—Objected to as incompetent and calling for a mere conclusion and expression of opinion of the witness and not for a statement of fact and not proper recross-examination.

A. Yes.

(Deposition of Frederick W. Jones.)

RXQ. 456. (By Mr. BLAKESLEE.) In any conversation Mr. E. C. Wilson or myself have had with you, have we attempted to secure information from you with regard to anything further than what you considered your rights concerning these reamer inventions and what you would testify to if called as a witness?

Mr. LYON.—Objected to as incompetent and calling for a mere conclusion of the witness and not a proper method of proof of conversation.

A. No.

Mr. BLAKESLEE.—That is all. Under the stipulation we call on the witness to read over and sign his present deposition and we call on the notary for an extra copy of the deposition of this witness which we will likewise ask him to submit to the witness to sign with the original copy of the deposition, such extra copy, of course, to be at the expense of the complainant.

FREDERICK W. JONES.

Subscribed by said witness this August 27, 1915.

I. BENJAMIN,

Special Examiner. [724]

Deposition of Olive E. Jones, for Defendant.

OLIVE E. JONES, being first duly sworn according to law, testified as follows on behalf of defendant:

Direct Examination.

(By Mr. LYON.)

Q. 1. You are the wife of Fred W. Jones who has just testified in this case? A. Yes, sir.

(Deposition of Olive E. Jones.)

Q. 2. Do you remember what time it was in 1901 when your husband left the employ of the Union Oil Tool Company?

A. It was some time between the middle of July and the first of August. Some time right in there.

Q. 3. And into what business did he go after that?

A. He went into the machine oil tool business, working for himself.

Q. 4. Was he associated with any other person?

A. Yes, sir.

Q. 5. Who? A. George L. Skinner.

Q. 6. Under the name of the Santa Paula Tool Works?

A. I have just forgotten about that.

Q. 7. After your husband became associated with Skinner did he make any underreamers?

A. Yes, sir.

Q. 8. What kind of underreamers?

A. I don't know how to describe them. Like the two models, No. 1 and 2, on the floor.

Q. 9. You refer to Defendant's Exhibit Fred W. Jones, Types 1 and 2, on the floor before you?

A. Yes, sir.

Q. 10. Do you know for how long your husband continued to manufacture these underreamers?

A. Along until November, 1902. [725]

Q. 11. Do you know whether any of either type of such reamers were ever sold or rented?

A. Yes, sir.

Q. 12. Of which type? A. No. 2.

(Deposition of Olive E. Jones.)

Q. 13. To whom do you remember type 2 being sold or rented?

A. Rented to I. G. Waterman, one 9⁵/₈ and one 7⁵/₈.

Q. 14. Did you write any letters for Mr. Jones in relation to such rental? A. Yes, sir.

Q. 15. I show you a copy of a letter of March 12, 1903, signed under the name of Fred W. Jones and addressed to Mr. Smiley Ovieda, and a letter to Mr. William J. Griffith under date of June 5, 1903, together with a bill in the name of I. G. Waterman, all three of these letters have been copied as part of Mr. Jones' deposition, and I ask you if you know who wrote these? A. Yes, sir.

Q. 16. Who wrote them? A. I did.

Q. 17. Under your husband's direction?

A. Yes, sir.

Q. 18. Do you know what was done with the original letters?

A. We mailed them to the parties they are addressed to.

Q. 19. Do you know that they were written on the dates that they bear? A. Yes, sir.

Q. 20. Do you remember in 1902 or '3 your husband receiving a letter from me claiming that the manufacture of this type 2 underreamer was an infringement upon the rights of Mr. Edward Double or of the Union Oil Tool Company's patent?

Mr. BLAKESLEE.—Objected to as leading and suggestive; [726] not the proper method of proof.

(Deposition of Olive E. Jones.)

A. Yes. To the best of my knowledge it was received in 1902.

Q. 21. (By Mr. LYON.) There was such a letter? A. Yes.

Q. 22. How do you fix the date as 1902 that your husband was engaged in manufacturing these types of reamers?

A. Well, September 20, 1901, my mother came to California and she was with me seven months. That is one thing. And at that time I know who was working there and it was right back of the house.

Q. 23. You know it was after she left, in the fall after she left, when he commenced first making these reamers?

Mr. BLAKESLEE.—Objected to as leading.

A. Yes; he was making the models or working on them the week she went away or while she was there some time. She went away on the 6th of April.

Q. 24. (By Mr. LYON.) What year?

A. 1902.

Mr. LYON.—That is all.

Cross-examination.

(By Mr. BLAKESLEE.)

XQ. 25. Which reamer was it that your husband, Mr. Jones, was working on in April, 1902, when your mother left?

A. No. 2. He might have built them before she left, but it was during that time somewhere.

XQ. 26. I show you three photographs which constitute complainant's exhibit on cross-examina-

(Deposition of Olive E. Jones.)

tion of Fred W. Jones, photographs of Jones model Defendant's Exhibit Fred W. Jones Reamer Type 1, and ask you if you ever saw any wooden model that looked like these photographs? A. I have [727];

XQ. 27. Do you know of any such wooden model being taken or sent by Mr. Jones to Newhall, California? A. Yes, sir.

XQ. 28. Was it taken there by him?

A. Yes, sir.

XQ. 29. Were you with him when it was taken there? A. No, sir.

XQ. 30. Do you remember when it was taken there? A. No, sir.

XQ. 31. Do you know where Mr. Jones made that wooden model? A. Yes, sir.

XQ. 32. Where?

A. At the shop where he was working.

XQ. 33. That was the shop Edward Double was foreman of?

A. No, sir. I just don't remember.

XQ. 34. You can't say what shop it was?

A. No, sir.

XQ. 35. Can you say the year the wooden model was made? A. 1901.

XQ. 36. Can you say what part of the year?

A. The fore part of the summer; along in the early part of the summer that he made the first one or the little one.

XQ. 37. Was it possibly in April or May, 1901?

A. Yes, sir.

(Deposition of Olive E. Jones.)

XQ. 38. And this larger model was made afterwards? A. Later; yes, sir.

Mr. BLAKESLEE.—That is all.

Redirect Examination.

(By Mr. LYON.)

RDQ. 39. Were you present during the conversation between your husband and myself at your ranch near McFarland, [728] California, on Tuesday, August 3d, 1915?

A. I was present.

RDQ. 40. Mr. B. N. Yonkin was present also at that time? A. Yes, sir.

RDQ. 41. Was there anything said during that conversation as to whether your husband Fred W. Jones had ever shown to Mr. Double either of the models of his reamers like type 1 and type 2, prior to his leaving the employ of the Union Oil Tool Company?

Mr. BLAKESLEE.—Objected to as leading and suggestive and not the proper method of proof of conversation.

A. There was.

RDQ. 42. (By Mr. LYON.) What was said?

Mr. BLAKESLEE.—The same objection.

A. I don't remember just the words.

RDQ. 43. (By Mr. LYON.) Give the words as near as you can.

A. I know that you asked him the question whether Mr. Double had seen the model or not, and he said he did not.

(Deposition of Olive E. Jones.)

RDQ. 44. Is that all you remember in that regard?

A. That is all I can remember now. I was just trying to think. I didn't pay so much attention to it to know.

Mr. LYON.—That is all.

Recross-examination.

(By Mr. BLAKESLEE.)

RXQ. 45. At that conversation what time was mentioned when these were shown to Mr. Double—these models? A. No time at all.

RXQ. 46. Was the question whether they were ever shown Mr. Double or whether they were shown in 1901?

A. I don't remember whether there was any date or anything mentioned.

RXQ. 47. Do you remember definitely whether he was asked whether Mr. Double had ever seen these models? [729]

A. I know it was spoken of whether he has seen the models or not,

RXQ. 48. Do you remember just what your husband said about that?

A. That he had not seen them, but I thought—I never took any notice of what model he meant, but Mr. Jones said he meant the—

RXQ. 49. That he meant the model of type No. 2?

A. That is what he told me. I don't know.

RXQ. 50. That is all you remember about that?

A. Yes, sir.

(Deposition of Olive E. Jones.)

RXQ. 51. In other words, the model of the reamer Defendant's Exhibit Fred W. Jones Reamer Type No. 2, the furthest on the floor? That was made after the model like Defendant's Exhibit Type No. 1? A. Yes.

Redirect Examination.

(By Mr. LYON.)

RDQ. 52. When you say your husband said that it was the type No. 2 model that you referred to, you meant that that is what he said to you during the noon adjournment to-day?

A. Yes; that we were mistaken in his meaning.

RDQ. 53. And this morning you stated to me that your recollection was that he said that he had never shown either of those?

A. Yes; and I thought that that was what he said.

RDQ. 54. (By Mr. BLAKESLEE.) Are you sure what he did say at that time?

A. No, sir; I am not positive. I am telling as nearly as I can remember. I didn't pay so awful much attention to his and Mr. Lyon's conversation.

RXQ. 55. How close were you to Mr. Lyon and your [730] husband at that time?

A. I don't remember; about three or four feet.

RXQ. 56. Were you joining in the conversation?

A. I was talking to Mr. Yonkin.

RXQ. 57. And you didn't take part in the conversation between your husband and Mr. Lyon?

A. No, sir, or at least I don't remember of it.

RXQ. 58. Do you remember anything else your

(Deposition of Olive E. Jones.)

husband said at that time? A. No, sir.

RXQ. 59. And you won't say that definitely, would you, that he referred to any model like type No. 1, would you, at that conversation?

A. I wouldn't say whether he said model or models.

RXQ. 60. You wouldn't say whether it was the model of type No. 1 or type No. 2, or both?

A. No, sir; I would not.

RXQ. 61. Or either?

A. Well, it was a model of some kind.

RXQ. 62. And that is as near as you can state, that it was some model?

A. Yes, sir. But, as I say, I was not engaged in the conversation at that time, although I was near them when they were talking and remember hearing them speak about it.

RXQ. 63. And Mr. Jones had half a dozen different models of different types or reamers in 1901 and '2?

A. No, sir; he had just two that I remember of.

RXQ. 64. I mean he had several models of those two?

A. He had one of the type No. 1—a wooden model—a small one; and then he made two of type No. 2, small ones.

RXQ. 65. And then several larger ones of type No. 1? A. Yes, sir; wooden ones. [731]

RXQ. 66. And you don't know whether that conversation referred to small or large model No. 1, or models of No. 2? A. Not positively, I don't.

(Deposition of Olive E. Jones.)

Mr. BLAKESLEE.—That is all.

RDQ. 67. (By Mr. LYON.) What is your best recollection as to what models that conversation referred to at that time?

Mr. BLAKESLEE.—Objeted to as merely repetition.

A. I supposed that he meant the whole of them.

RDQ. 68. (By Mr. LYON.) Isn't it a fact, to refresh your recollection, that just after that statement you told me that there was an old brass model like No. 2 up at your other cottage.

A. Yes; I remember that.

RDQ. 69. Does that aid you in refreshing your recollection that we were or were not talking about more than one kind of underreamer at that time?

A. Well, I know they were both spoken of that day.

RDQ. 70. And I asked you at that time, didn't I, which kind the one at the other cottage was?

A. Yes.

RDQ. 71. And then Mr. Yonkin, your husband and I took the automobile and drove over there to get it? A. Yes.

Mr. LYON.—That is all.

RXQ. 72. (By Mr. BLAKESLEE.) And during the talk between Mr. Lyon and Mr. Jones about these models at which anything was said about showing to Mr. Double, you were actually talking to Mr. Yonkin?

A. I won't positively say whether I was or not,

(Deposition of Olive E. Jones.)

but I visited with Mr. Yonkin a good deal on Monday when he was there.

RXQ. 73. And Mr. Jones, your husband, this noon told you that he had shown those models to Mr. Double, did he not?

A. He said to the best of his recollection that he had shown the wooden model of No. 1—the little model. [732]

Mr. BLAKESLEE.—That is all.

Mr. LYON.—Did he state that he was positive of it or that he just thought he had?

A. The best he could remember of it.

Mr. LYON.—That is all.

Mr. BLAKESLEE.—We ask that the testimony of this witness likewise be read over and signed by her and that an extra copy thereof be produced at the expense of complainant, and that the same be signed by her at the same time she signs the original copy, and that such copy be furnished to the complainant.

OLIVE E. JONES.

Subscribed by said witness this August 27, 1915.

I. BENJAMIN,

Special Examiner. [733]

Office of Frederick S. Lyon, 504 Merchants Trust Bldg.

Los Angeles, Cal., Monday, August 23, 1915.

This being the time and place appointed for the

taking of the deposition of R. M. Close, the following proceedings were had.

Present: FREDERICK S. LYON, Solicitor for Defendant, and

RAYMOND IVES BLAKESLEE, Esq.,
Solicitor for Complainant.

Deposition of R. M. Close, for Defendant.

R. M. CLOSE, produced as a witness on behalf of the defendant, testified as follows:

Direct Examination.

(By Mr. LYON.)

Q. 1. Please state your name, age, residence and occupation?

A. I am now 56 years old. I live at 926 Grattan St., Los Angeles, California; my occupation is salesman.

Q. 2. How long have you resided in Los Angeles, Mr. Close? A. About 15 years.

Q. 3. Were you at any time connected with the manufacture of oil well machinery and tools?

A. I was.

Q. 4. In what capacity and where?

A. I was superintendent of the Los Angeles Well Tool Works, North Main Street in Los Angeles, beginning there in the fall of 1900.

Q. 5. And for how long were you connected with the Los Angeles Well Tool Works in Los Angeles, California?

A. The exact date when I left there I do not know, but it was sometime prior to June, 1902.

Q. 6. And who was it that succeeded you?

(Deposition of R. M. Close.)

A. Mr. Mills, now of the Mills Iron Works. [734]

Q. 7. That is, Mr.—

A. That is *E. L. Mills*.

Q. 8. Did you ever meet a man by the name of Fred W. Jones? A. I did.

Q. 9. Do you know where he resided at that time?

A. He told me he resided at Santa Paula—

Q. 10. In what connection did you meet Mr. Jones?

A. He came to our works to have an underreamer made.

Q. 11. You say “he came to our works.” You mean— A. The Los Angeles Well Tool Works.

Q. 12. Can you state whether you had any conversation with him at that time; if so, what it was and what was done?

A. Well, about the only conversation was that he brought drawings there, and said that he wanted to arrange to have an underreamer made, and asked if we were in shape to make it for him, and I told him we were, and we went right into the details of it and made the reamer for him.

Q. 13. Do you know where that reamer is at the present time? A. No; I do not.

Q. 14. Look among the various exhibits in this case, and state whether or not there is any one of those exhibits with which you are familiar?

A. Well, this reamer here has all the ear marks of the Los Angeles Tool Works for the reason that William Fairbairn, who was a machinist at our

(Deposition of R. M. Close.)

works, had his name on it. He was a machinist working for me at that time.

Q. 15. W. A. —?

A. W. A. F-a-i-r-b-a-i-r-n. (The witness refers to Defendant's Exhibit Fred W. Jones Reamer, Type 2.)

Q. 16. And about when, Mr. Close, was it that under your supervision and at the Los Angeles Well Tool Works a [735] reamer like Defendant's Exhibit Fred W. Jones Reamer, Type 2, which you have just identified, was made for F. W. Jones?

By Mr. BLAKESLEE. Objected to as assuming a fact not testified to by the witness, that any such reamer as this particular exhibit was made for F. W. Jones, and, therefore, it is leading.

Q. 17. The question is withdrawn. Can you state, Mr. Close, when you first saw this reamer described as Defendant's Exhibit Fred W. Jones Reamer, Type 2, which you have identified?

A. Now, the exact date it would be impossible for me to say, but it must have been in the latter part of 1901 or the early part of 1902.

Q. 18. And under what circumstances did you see it?

A. Well, just having charge of the tool works. We took the tool on an order from Fred Jones.

Q. 19. How is it, Mr. Close, that you fix this date as the latter part of 1901 or the fore part of 1902?

A. 20. Well, I left the Los Angeles Well Tool Works and sold out to Mr. Mills, I think, before May,

(Deposition of R. M. Close.)

1902, and we did not get the shop into full operation until the spring or summer of 1901, and the men that I had working for me at the time that this was made brings it to my knowledge that it must have been sometime during that time.

Mr. LYON.—You may cross-examine.

Cross-examination.

(By Mr. BLAKESLEE.)

XQ. 21. What sort of an order did you receive from Fred W. Jones to make any such reamer?

A. He was there personally.

XQ. 22. Can you state the month he was there?

A. No, I cannot.

XQ. 23. Do you know what was done with any such reamer made for Mr. Jones at that shop?

[736]

A. I cannot remember whether it was shipped to him or whether he came and got it.

XQ. 24. You do not know anything about its after history? A. No; I do not.

XQ. 25. Had you known Fred W. Jones before that time when he first placed the order? A. No.

XQ. 26. Had you known anything about him?

A. No, sir.

XQ. 27. He had never been in your shop?

A. Well, he might have been in the shop and me not know him.

XQ. 28. Do you know where he was residing at that time?

A. He told me he lived in Santa Paula.

(Deposition of R. M. Close.)

XQ. 29. You never saw such an underreamer as this exhibit type No. 2 being used or attempted to be used? A. No, sir.

Mr. BLAKESLEE.—That is all.

By Mr. LYON.—And no redirect examination, now.

R. M. CLOSE, being recalled on behalf of defendant, testified as follows:

Direct Examination.

(By Mr. LYON.)

Q. 30. Mr. Close, the gentleman with Mr. Blakeslee in the room, do you know who he is?

A. I don't know him by name. I have seen his face before, if I am not mistaken. I have seen him at the Los Angeles Well Tool Works, when I was in charge there.

Mr. LYON.—Please note on the record that the gentleman referred to is Mr. Elihu C. Wilson, the complainant in this case.

Q. 31. Under what circumstances did you see Mr. Wilson [737] at the Los Angeles Well Tool Works while you were in charge there?

A. I cannot say, but the gentleman's face is familiar to me. And in what connection I saw him there, it is so long ago now that I cannot state. But his face is very familiar.

Mr. LYON.—That is all.

Cross-examination.

(By Mr. BLAKESLEE.)

XQ. 32. Have you ever seen this gentleman, Mr.

(Deposition of R. M. Close.)

Wilson, since the time you refer to?

A. Probably I have seen him a great many times, but I don't remember any place or anything about it.

XQ. 33. You say "probably." Do you know that you have seen him? A. No, sir.

XQ. 34. Do you know that you have seen him?

A. No, sir.

XQ. 35. Do you know that you saw him at the shop at that time—14 years ago?

A. Unless he has a twin, I saw him there.

XQ. 36. You are absolutely positive that it was not somewhere else that you saw him?

A. No; I don't think so. I think I place him as seeing him there, and as to what connection I saw him in there I cannot place that.

XQ. 37. Did you ever visit the Baker Iron Works in the years 1901 and 1902 in Los Angeles?

A. Oh, yes; I have been there from time to time.

XQ. 38. Quite frequently?

A. Oh, no. I was probably in there during my administration of the Los Angeles Well Tool Works, I don't think to exceed three or four times.

XQ. 39. And when you were there you went into the office, I suppose? [738]

A. Sometimes, and sometimes not.

XQ. 40. Didn't you know that Mr. E. C. Wilson was connected with that company and was working in the office? A. No, sir.

XQ. 41. Are you positive you did not see him in that office in the years 1901 and 1902?

(Deposition of R. M. Close.)

A. It might have been there where I saw him.

XQ. 42. And you have seen him there?

A. I might have seen him there.

Mr. BLAKESLEE.—That is all.

By consent of counsel, an adjournment is now taken until 2 o'clock P. M. on this day at this place. Office of Frederick S. Lyon, 504 Merchants Trust Bldg.

Los Angeles, Cal., Monday, August 23, 1915, 2 P. M.

This being the time and place unto which the further taking of depositions on behalf of defendant was continued, proceedings are now resumed.

Present: FREDERICK S. LYON, Esq., Solicitor for Defendant, and
RAYMOND R. BLAKESLEE, Esq., Solicitor for Complainant.

Deposition of George L. Skinner, for Defendant.

GEORGE L. SKINNER, produced by subpoena issued out of this court, as a witness on behalf of defendant, being first duly sworn according to law, testified as follows:

Direct Examination.

(By Mr. LYON.)

Q. 1. Please state your name, age, residence and occupation.

A. My residence or place of business?

Q. 2. Residence. [739]

A. George L. Skinner, residence, 377 West 42d St., watchmaker and jeweler. Business location, 4811 South Vermont Ave.

(Deposition of George L. Skinner.)

Q. 3. Did you ever, at any time, live in the town of Santa Paula, California? A. Yes, sir.

Q. 4. When?

A. Well, I can hardly tell the year, but I went there in November, 1876, first. I cannot tell exactly the times that I have been there. Let's see. I went back east and I came back in 1886. I don't believe you want anything back of that time, do you?

Q. 5. No.

A. I think I was continuously there, except a few months in Los Angeles, until February, 1905.

Q. 6. Were you ever acquainted with a man named Fred W. Jones, of Santa Paula, California?

A. I was.

Q. 7. Were you ever in business with him?

A. I was.

Q. 8. In what business? A. Oil well tools.

Q. 9. In Santa Paula? A. I was.

Q. 10. When was that?

A. I think we went into business some time in October—wait a minute. I will give you the date. Here is an application for incorporation of the Santa Paula Oil Tool Works, dated October 28, 1901. But prior to that time Mr. Jones had worked in my shop with my services and my tools, during which time he made this first underreamer here. This one here.

Mr. LYONS.—The witness points to Defendant's Exhibit Fred W. Jones Reamer Type 1, [740]

Q. 11. You mean this nearest one to you?

A. Yes, sir.

Q. 12. Type 1. How long did you continue in

(Deposition of George L. Skinner.)

business with F. W. Jones at Santa Paula Oil Tool Works?

Mr. BLAKESLEE.—Let it be shown that the witness refers to a certain memoranda in his hand.

A. No, gentlemen, there was a time before we settled up entirely—Jones left and went to work for Richardson in the Oil Tool Works there, and then after that I had a settlement with him and bought him out. I bought him out and cancelled his stock in the company. Now, those dates as near as I can get at it—(the witness produces a ledger to which he refers)—the last entry prior to our settlement—I can't give the exact date, but the last entry prior to that was August, 1903. I have an entry here as paying him \$38.50 which was part of the payment in settlement with him, on December 26, 1903.

Q. (By Mr. LYON.) 13. And you say prior to this settlement he had for some time been with Richardson? A. Yes.

Q. 14. According to your recollection, about how long?

A. I don't know; according to my books it was somewhere about that time. I don't know. It is a long time and I have been fighting hard to forget this.

Q. 15. You have referred to the incorporation of the Santa Paula Oil Tool Works? A. Yes, sir.

Q. 16. For approximately how long prior to the date of this application for the incorporation of that company had Fred W. Jones been associated with you in any manner in your shop at Santa Paula?

(Deposition of George L. Skinner.)

A. Well, gentlemen, I can't tell. I don't know. It was long enough to build that reamer—one of them, at least. [741]

Q. 17. You refer to reamer, Defendant's Exhibit Fred W. Jones Reamer Type 1? A. Yes, sir.

Q. 18. Did Mr. Jones make more than one of such reamers like this type 1 at your said shop at Santa Paula?

A. I think he did, but I am not positive. He worked on more than one and partly completed them, if he did not complete them.

Q. 19. What became of such reamer or reamers?

A. There is one of them. I don't know. I think one of them was sent here to Herron.

Q. 20. That is the R. H. Herron Company?

A. Yes; I think one of them was sent there.

Q. 21. Did you receive any report, or hear any report given as to whether such reamers as Defendant's Exhibit Fred W. Jones Reamer Type 1, was satisfactory in underreaming or otherwise?

Mr. BLAKESLEE.—Objected to as not calling for the best evidence and not the proper method of proof and calling merely for a hearsay.

A. The understanding was that it was not, and for that reason we quit making it. I can't mention any names who reported it, but I am of the impression that we took the one at Herron's back.

Q. 22. That is your recollection?

A. Yes, sir; as near as I can remember, and I won't be positive even as to that.

Q. 23. And after that, did Fred Jones or did the

(Deposition of George L. Skinner.)

Santa Paula Oil Tool Works, or Jones and yourself make any other reamer?

A. Yes, sir; we made this other one.

Q. 24. Which one?

A. The second one from me. [742]

Mr. LYON.—The witness refers to Defendant's Exhibit Fred W. Jones Reamer Type 2.

Q. 25. And approximately how many of such reamers did you make?

A. I have no record of only disposing of one in my book.

Q. 26. And to whom was that sold?

A. I think Spencer in Colorado—wait a minute. (Referring to letter-book.) I have a bill here to T. E. Spencer, Florence, Colorado, February 28, 1902.

(The following is a copy of the entry referred to by the witness in his letter-book.)

T. E. Spencer,		Feb. 28.	2
Florence, Colorado.			
Santa Paula Tool Works	Santa Paulina Oil Tool Works		
	Santa Paula Oil Tool Works	Successors to	
Feb 28	To underreamer No. 102		200.00
	Less 15% Trade discount	30.00	
“ 15	By cash	60.00	
	“ “ Discount on 60.00	3.00	93.00
			<hr/>
	Balance due		107.00
	5% off of the above \$107.00		
	if paid within 5 days.		

(Deposition of George L. Skinner.)

(By Mr. LYON.)

Q. 27. This record, Mr. Skinner, which you have just read to us, is a copy of the bill sent to Mr. Spencer on February 28, 1902, for the said underreamer?

A. Supposed to be, yes, sir; so far as I know. We copied our bills and sent them out that way.

Mr. LYON.—The copy of this bill that has been copied into the record is offered in evidence as a part of this deposition [743] with the same force and effect as if the copy produced by the witness were actually offered. This is for the purpose of leaving the book in the possession of the witness, and I understand counsel for complainant has no objection to that course.

By Mr. BLAKESLEE.—No objection.

By Mr. LYON.—Q. 28. I notice that this bill says “underreamer No. 102.” What does that mean?

A. I think we started the numbers at 100. I know in some work I did before I started to number at 100. It always looked better to start with a hundred than with one.

Q. 29. Do you remember what size reamer this was?

A. No; unless the bill shows; I couldn't tell you.

Q. 30. What kind of an underreamer was this?

A. Like that type 2 there.

Q. 31. Defendant's Exhibit Fred W. Jones Type 2? A. Yes, sir.

Q. 32. Was this reamer ever paid for in full?

A. Yes.

Q. 33. You have the ledger account showing that?

(Deposition of George L. Skinner.)

A. I have.

Mr. LYON.—Do you want to see it, Mr. Blakeslee?

Mr. BLAKESLEE.—No. That is, that particular one?

Mr. LYON.—No; the one sent to Florence.

Mr. BLAKESLEE.—That 102 reamer?

Mr. LYON.—Yes.

A. In fact, I couldn't say that there was any number on them, but I suppose there was.

Q. 34. Were any of these same reamers like this exhibit Fred W. Jones reamer type 2, rented for use?

A. I don't know. Not by the Santa Paula Oil Tool Works, that I know of. There might have been. I don't know, gentlemen, I don't know. It seems as though we rented some underreamers, too, but I can't say. [744]

Q. 35. How was it, Mr. Skinner, that you discontinued the manufacture of reamers like Defendant's Exhibit Fred W. Jones Reamer Type 2, and Mr. Jones went to work for Mr. Richardson?

A. The company was notified—I can't say positively whether by letter or verbally—but I am under the impression that it was by letter—to stop manufacturing those underreamers; that they were an infringement.

Q. 36. Do you remember what company it was in whose behalf that notice was given?

A. I do not.

Mr. LYON.—You may cross-examine.

(Deposition of George L. Skinner.)

Cross-examination.

(By Mr. BLAKESLEE.)

Q. 37. You never witnessed the operation or attempted operation of any reamer like the Jones reamer type 2 before us, did you ?

A. I declare I don't know whether it was type 2 or type 1. We went up once above Santa Paula there—I don't know where—where Billy Stein was. And he took one of the reamers that day that we were there.

Q. 38. You don't know what type of reamer that was ?

A. I am of the opinion that it was type 1, but I am not sure.

Q. 39. Did you stay there until the reamer was pulled out ?

A. It seems to me it was just let down and taken out, but I won't be positive. It was just to see if it went into the hole.

Q. 40. No reaming was attempted ?

A. No; just to test it and see if it would work.

Q. 41. On no other occasion did you see any such attempted use ? [745]

A. No, sir; Jones and I went out there that day. I don't think we were there/at the well/more than half an hour. It was just let down and drawn right up.

Q. 42. This reamer No. 2 that you shipped to Spencer in Colorado was so defective that one of the cutters was returned to you broken. Is that not so ?

(Deposition of George L. Skinner.)

A. I can't say positively, but if I remember right, Jones shipped him other underreamers after I stopped the manufacture. I think there were two others shipped, but I am not positive. But that was by Jones himself.

XQ. 43. You remember, do you not, that a cutter on that particular reamer No. 102 that was shipped to Spencer came back broken?

A. No; I am not positive that it was that one. It seems to me that it was a smaller one—a four-inch. I can't state. I don't want to make an assertion here that I am not positive of. There was one cutter sent back to be replaced for that type of reamer.

XQ. 44. As a matter of fact you don't remember any of these matters you have testified to so clearly that you would swear to any statements concerning them?

A. Positively I could not. It has been so long.

XQ. 45. You admitted to E. C. Wilson, the complainant here present, and myself, last Thursday night, did you not, at your store on Vermont Avenue, that you had been for a long time deliberately attempting to forget all these matters, and that you could not testify to anything about them with any definiteness? A. I did.

XQ. 46. And your present state of recollection or failure to recollect is the same as it was then?

A. Certainly. I don't see how it could be otherwise. If I could state positively on any of these points I would come [746] out flat-footed and say so, but I don't know anything about the merits of

(Deposition of George L. Skinner.)

the case and have no interest in it one way or the other. No one has asked me to swear to one thing or another.

XQ. 47. We are simply trying to determine what the nature of your recollection is. That is all.

A. I understand.

XQ. 48. Do you remember when this notice of infringement that you have been asked about was received at Santa Paula?

A. I have no record of it, but it was after that first reamer was shipped to Spencer and while others were under way of manufacture.

XQ. 49. Was it in the year 1902?

A. It must have been.

XQ. 50. If you were informed that no letters patent were issued to the Union Tool Company, or to Edward Double, its president, before the year 1903, on underreamers, would that alter your recollection in these respects?

A. I don't see how it could. I had no talk with Double. Double and I were not friends at that time.

XQ. 51. Do you remember that it was a notice of infringement of a patent or whether it was merely a notice that a patent might be issued on underreamers?

A. I can't say, but I am of the impression that they claimed infringement and that we would be prosecuted if we continued manufacturing, and I forthwith gave Mr. Jones notice that the company would not work on them any more, and I stopped it right there.

(Deposition of George L. Skinner.)

XQ. 52. And Edward Double, then the foreman of the Union Oil Tool Company shop at Santa Paula, now the president of the Union Tool Company, and Mr. Jones had some controversy, to your knowledge, did they not, with respect to these underreamers?

Mr. LYON.—The question is objected to as containing a [747] misstatement of facts. There is no testimony that Edward Double was as late as February 28, 1902, the foreman of any shop.

Mr. BLAKESLEE.—The question is withdrawn.

XQ. 53. Edward Double was the foreman of the Union Oil Tool Company at Santa Paula just before Fred W. Jones left that shop and entered into business with you, was he not?

A. Well, I don't know whether he was foreman or president of it. He was in charge there.

XQ. 54. Did you know Edward Double at that time? A. I did.

XQ. 55. Did you know him in the year 1901?

A. Yes, sir.

XQ. 56. Were you not frequently in that shop in the year 1901?

A. Possibly. In the forepart of the year but not in the latter.

XQ. 57. Edward Double used to come over to
I. B. used

your shop and see/some of your machine tools?

A. Yes; I worked for him there.

XQ. 58. You knew Fred W. Jones in the early part of the year 1902?

A. Yes, sir; and for two or three years before that.

(Deposition of George L. Skinner.)

XQ. 59. Was there not at that time some controversy between Fred W. Jones and Edward Double, the latter being now president of the Union Tool Company, the defendant in this case, over the origin of certain underreamers?

Mr. LYON.—That is objected to as not cross-examination, irrelevant and immaterial to the issues of this case, and as incompetent and as not the best evidence it not being shown that the witness has any personal knowledge of the subject matter.

A. Nothing of my own knowledge, only through the talk with Mr. Jones. [748]

(By Mr. BLAKESLEE.)

XQ. 60. And is it not true that at that time, in fact, after Mr. Jones entered into the business with you, running the business of the Santa Paula Oil Tool Works, that Mr. Jones discussed with you such controversy over the origin of certain underreamers?

Mr. LYON.—The same objection, and as incompetent, not being shown that such discussion was in the presence of any of the officers of the defendant company.

A. Certainly he did.

(By Mr. BLAKESLEE.)

XQ. 61. It was while Mr. Jones was with the shop of the Union Oil Tool Company at Santa Paula in 1901, Edward Double being then in charge of that shop, that Jones devised this type 1 Jones underreamer, wasn't it?

Mr. LYON.—The same objection.

A. I don't know now when he devised it. I sup-

(Deposition of George L. Skinner.)

pose though that he did during that time.

(By Mr. BLAKESLEE.)

XQ. 62. He did not devise it after he hooked up with you in business in the Santa Paula Oil Tool Works?

A. Oh no; he came in with me to make that — to experiment on that — when he rented my shop.

XQ. 63. Did he not tell you after joining you in business that he had devised that type 1 Jones underreamer while he was connected with the Union Oil Tool Company shop at Santa Paula?

Mr. LYON.—The same objection as last noted on the record.

A. I don't remember any such conversation.

(By Mr. BLAKESLEE.)

XQ. 64. Do you remember that that matter was discussed between you and him at that time and place?

Mr. LYON.—The same objection.

A. It probably was. We naturally would talk of such things.

XQ. 65. And in that connection there was discussion between you and Mr. Jones as to other matters pertaining to the [749] devising of other underreamers at the shop of the Union Oil Tool Company prior to the time Mr. Jones connected himself with yourself in your business, was there not?

Mr. LYON.—The same objection.

A. I don't know, but I am under the impression that the Jones underreamer and the Double underreamer were under creation at that time, or in the

(Deposition of George L. Skinner.)

way of being created at that time. That is the impression that I have — that they were both being worked on at that time.

Mr. LYON.—We move to strike out the answer from the record and exclude it from consideration on each of the grounds stated in the objection to the question, and on the further ground that it is merely the guess or conclusion of the witness and not a statement of fact.

(By Mr. BLAKESLEE.)

XQ. 66. Did not Mr. Jones contend that he had worked up this so-called Double underreamer while connected with the shop of the Union Oil Tool Company before coming over to your shop?

Mr. LYON.—The same objection as last noted on the record.

A. I don't remember anything of that kind. It might have been so.

(By Mr. BLAKESLEE.)

XQ. 67. Didn't Mr. Jones, while connected with you in business in Santa Paula in the year 1902, discuss with you the question of fighting the Double interest over this underreamer question?

Mr. LYON.—Objected to as not cross-examination, as irrelevant and immaterial to the issues of this suit, and as incompetent for any purpose in this case, it not being shown that any such interview or discussion was had in the presence of any officer or agent of the defendant company, and as calling for the mere conclusion of the witness and not the proper method of proof of a conversation if the conversation

(Deposition of George L. Skinner.)

were competent, material or relevant. [750]

A. Yes, I think he did. We were not discussing hardly anything else there for a while.

(By Mr. BLAKESLEE.)

XQ. 68. And did not Fred W. Jones attempt to get you to back him up in such a fight? That is, financially?

Mr. LYON.—The same objection.

A. He certainly did. That is, the Oil Tool Company—not me individually, but the Oil Tool Company.

(By Mr. BLAKESLEE.)

XQ. 69. You mean the Santa Paula Oil Tool Works? A. Yes, sir.

XQ. 70. And you and Mr. Jones owned all of the interest in the Santa Paula Oil Tool Works?

A. Oh, no. My family and his family. That is, including my sister-in-law.

XQ. 71. Did Mr. Jones not at that time contend that he had worked up this so-called Double under-reamer?

Mr. LYON.—The same objection as last noted on the record.

A. I don't think so.

(By Mr. BLAKESLEE.)

XQ. 72. Are you positive as to what he contended in that respect?

Mr LYON.—The same objection.

A. No, I am not.

(By Mr. BLAKESLEE.)

XQ. 73. But you know there was some contro-

(Deposition of George L. Skinner.)

versy over the question of the Double reamer and the Jones reamer?

Mr. LYON.—The same objection.

A. There was.

(By Mr. BLAKESLEE.)

XQ. 74. And did not Mr. Jones at that time contend that he could successfully defend, or that the Santa Paula Oil Tool Works could successfully defend any suit that might be brought under any patent issued upon the application of Edward [751] Double for underreamers, on the ground that he, Fred W. Jones, was the inventor of any such underreamers?

Mr. LYON.—The same objection as last noted on the record.

A. He claimed that he had no infringement on any of Double's patents.

(By Mr. BLAKESLEE.)

XQ. 75. And you don't know that there was any Double patent in existence at that time?

Mr. LYON.—The same objection.

A. I don't think there was at that time. I don't know. I don't think there was. I have no way of knowing. I had no intercourse with Double whatever.

(By Mr. BLAKESLEE.)

XQ. 76. And you are not positive that he did not contend that if there was any invention of an underreamer claimed by Edward Double or the Union Oil Tool Company, that he, Fred W. Jones, was the inventor thereof instead of Edward Double?

(Deposition of George L. Skinner.)

Mr. LYON.—The same objection as last noted on the record.

A. I don't hardly think he made any claim of inventing the Double underreamer. There was features that came up that were talked and discussed where one was supposed to infringe on the other and so on.

(By Mr. BLAKESLEE.)

XQ. 77. In other words, you discussed, did you not, with Mr. Jones at that time at Santa Paula the common features that existed in both the Double reamer and the Jones reamer?

Mr. LYON.—The same objection as last noted on the record.

A. I suppose we did. Naturally men associated that way would.

(By Mr. BLAKESLEE.)

XQ. 78. Didn't Mr. Jones at that time at Santa Paula state to you that he had worked on this Double underreamer when he was at the shop of the Union Oil Tool Company?

Mr. LYON.—The same objection as last noted on the record. [752]

A. I don't know, but I naturally supposed he had worked on it before he left there, but I don't know whether he claimed he did or not.

(By Mr. BLAKESLEE.)

XQ. 79. And that was before there were any underreamers put out by the Union Oil Tool Company shop, was it not?

Mr. LYON.—The same objection.

(Deposition of George L. Skinner.)

A. I don't know.

(By Mr. BLAKESLEE.)

XQ. 80. Are you positive as to any dates that you have testified about aside from the assistance given you in fixing them by the written record you have produced?

A. I have no other way of locating or establishing dates, only by the record.

XQ. 71. And you don't know anything, do you, definitely as to whether any Jones reamer of either type 1 or type 2 actually gave success?

A. Not of my own knowledge. They may have been the most successful in the world, but I have my doubts.

Mr. BLAKESLEE.—That is all.

Redirect Examination.

(By Mr. LYON.)

RDQ. 82. You have referred to the Santa Paula Oil Tool Works receiving a notice that the Jones reamer was an infringement and stated that on account of such notice, such Santa Paula Oil Tool Works, or whatever its name was, discontinued the manufacture of such Jones reamer. Now, was it at that time or prior or subsequent that you had the talk with Mr. Jones in which he endeavored to get that company to finance a defense or suit against the claims of the Union Oil Tool Company?

A. It must have been before that, because when the notice came I stopped the thing right off. I wasn't going to get into any [753] suit where the Santa Paula Oil Tool Works had no interest what-

(Deposition of George L. Skinner.)

ever. I had no object for fighting.

RDQ. 83. Then the notice was before this conversation—the notice of infringement was before this conversation in which Jones endeavored to get you—

A. I don't know. It is just like people sitting here and talking things over and over and over, and possibly of this, that and the other, and it is pretty hard to tell when it was and when it was not what was said. If I could remember perfectly I would *willing tell*, but I don't want to put myself on record as saying things which possibly might never have happened. See? And I would be liable to do it.

RDQ. 84. Referring again to Defendant's Exhibit Fred W. Jones Reamer Type 1, I notice on the side here of this reamer the words "patent applied for." Do you know anything about that?

A. He probably had at that time "patent applied for" on that underreamer.

RDQ. 85. You don't know whether he did not?

A. I didn't see any of the papers whatever.

RDQ. 86. You don't know whether that was the application for type 2 or the other one?

A. Oh, no. We made a model of that and sent it to Washington, I think.

Mr. BLAKESLEE.—Q. 87. On which?

A. Type 2, and the model was sent back, but what it amounted to I don't know.

(Mr. LYON.)

RDQ. 88. There was an application for a patent on No. 2?

A. Yes, because we made a model of it and he sent

(Deposition of George L. Skinner.)

it in, although I did not see the papers. He was charged up for the model and the model was returned from Washington. Consequently I don't think he got any patent on it. I don't know. I don't think he [754] ever got a patent on that. I was worrying at that time trying to save what little I had in the business. Mr. Jones' private affairs would not interest me.

Mr. LYON.—I think that is all.

Mr. BLAKESLEE.—Under the stipulation we ask that this deposition be read over and signed by the witness, and that an extra copy be made thereof at the expense of complainant and likewise signed by the witness and furnished to the complainant so signed.

Mr. LYON.—Does complainant desire any of the books or records produced by this witness in connection with this stipulation other than those that have been copied into the record? The books are here, and if complainant desires, they can be either shown to complainant or offered in evidence.

The WITNESS.—I will take care of the books, because there is some things that I might get something out of, and I might get something out of them, but either one can have access to them.

Mr. BLAKESLEE.—There is nothing but a ledger and a press copybook with a bill in it.

The WITNESS.—You can have that sheet out of the copy-book if you want it.

Mr. BLAKESLEE.—No, no. You told us all about that.

Mr. LYON.—Then you do not care for the originals?

Mr. BLAKESLEE.—No.

The WITNESS.—Any time you want to look over the books you can do so.

Mr. BLAKESLEE.—You might put it this way. It is understood that if either party wishes to produce these books in open court to verify the entries referred to by the witness, that may be done at the final hearing.

Mr. LYON.—By the party so desiring. [755]

Mr. BLAKESLEE.—Yes, but only as to those entries and not chasing through the whole business.

GEO. L. SKINNER.

Subscribed by said witness this 30th day of August, 1915.

I. BENJAMIN,
Special Examiner.

CHANGES AND CORRECTIONS ASKED FOR
IN THE FOREGOING RECORD, NOT
AGREED TO BY COUNSEL.

Page Line

- | | | |
|----|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 36 | 12 | Change "corner" to "side." |
| 49 | 16-22 | Strike out and substitute "reamer body which form ways for the cutters. The collapsing of the cutters is produced by an inward motion of the lower ends of the cutters while sliding downwardly on their spread-bearings, during which course the bearings at the back of the shoulders of the cutters |

- referred to are in contact with the parallel bearing surfaces of the hollow-slotted extension; the upper ends of the cutters tilting outwardly, sliding on the key to which they are attached."
- 61 19 Insert after "of" the words "the shanks of the."
- 65 31 Change "the" before "bodies" to "their."
- 66 2 Insert after "Double" the word "improved."
- 67 8 Insert after "was" the words "more than."
- 68 1 Insert before "cutter" the words "shank of the."
- 68 9 Insert before "cutters" the words "shanks of the."
- 75 20 Change "original claim" to "several claims." [756]
- 78 29 Strike out sentence and insert: "This bearing, which is the bearing at the lower ends of parallel faces of body, in the case of the improved Double underreamer contacts with the cutter and forms the fulcrum or teetering point of the cutter."
- 82 32 Change "appear at " to "co-act with."
- 85 19 Insert "body" after "reamer."
- 92 25 Strike out "not" and insert after "that I" the words "had not seen."

- 247 26 Insert after "cases" the words "at my expense."
- 253 28&29 Change "I ever saw" to "I had ever seen."

United States of America,
State of California,
County of Los Angeles,—ss.

I, I. Benjamin, a notary public in and for the County of Los Angeles, State of California, do hereby certify that the foregoing, numbered consecutively from page 307 to page 617, both inclusive, is a full, true and correct transcript of the testimony taken and proceedings had in the matter of taking proofs in the cause therein entitled, consisting of the testimony and proceedings taken and had on July 23, 24, 26, 27, 28, 30, and August 14 and 23, all in 1915, and consisting likewise of witnesses called on behalf of defendant, namely, Arthur P. Knight, Thomas J. Griffin, Fred W. Jones, Olive E. Jones and R. M. Close, and Geo. L. Skinner and witnesses called on behalf of complainant, namely, Elihu C. Wilson, James Crete Hubbard and Edward L. Mills.

I further certify that the record hereinbefore referred to, together with that portion of the proofs taken in said cause and heretofore certified and filed, and also together with the proceedings of February 2, 9, and 16, 1916, which last named [757] proceedings were heretofore certified by me but not filed, constitutes all the proofs taken before me in said cause.

I further certify that the exhibits, documentary and physical, referred to in said record, were by me

duly marked and identified as stated in the aforesaid record, but that by stipulation of both parties to said cause the same were kept in the custody of counsel and were not delivered to me.

That upon the close of the taking of the proofs herein counsel for the respective parties suggested a number of changes desired to be made in the record, some of which by stipulation have been made in the body of the record, and others were not agreed to. That said proposed changes not agreed to by counsel are attached and made a part of the foregoing record, immediately after page 617 thereof.

IN WITNESS WHEREOF I have hereunto set my hand and affixed my seal this 23d day of February, 1916.

[Seal]

I. BENJAMIN,

Notary Public in and for Said County and State.

[Endorsed]: In the United States District Court, Southern District of California, Southern Division. E. C. Wilson, Complainant, vs. Union Tool Company, Defendant. In Equity.—No. A-4 and B-62, Consolidated. Proofs Taken on Behalf of Defendants and Complainant. Filed Feb. 23, 1916. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk.
[758]

In the United States District Court, Southern District of California, Southern Division.

IN EQUITY—No. A-4 CONSOLIDATED WITH
B-62.

ELIHU C. WILSON,

Complainant,

vs.

UNION TOOL COMPANY,

Defendant.

Proceedings on behalf of complainant, in rebuttal, pursuant to stipulation and agreement between the parties, at the office of Raymond Ives Blakeslee, solicitor for complainant, at the California Building, Second and Broadway, Los Angeles, California, beginning at the hour of 10:15 o'clock A. M., August 30, 1915, before Leo Longley, Notary Public, all in accordance with the stipulation and order of Court.

Present: RAYMOND IVES BLAKESLEE, Esq.
on Behalf of Complainant.

FREDERICK S. LYON, Esq., on Behalf
of Defendant.

**Deposition of Elihu C. Wilson, for Complainant
(Recalled in Rebuttal).**

ELIHU C. WILSON, the complainant, having previously testified in this case on his own behalf, being resworn by the notary present, testified further, in rebuttal, as follows, in answer to questions put by Mr. Blakeslee:

Q. 274. You have testified previously in this case,

(Deposition of Elihu C. Wilson.)

Mr. Wilson? A. I have.

Q. 275. Were you present when the deposition of Thomas J. Griffin was taken on behalf of defendant in this case? A. I was.

Q. 276. Did you hear the entire deposition as given by him? [759] A. Yes, sir.

Q. 277. Please state whether or not you were present at a certain conference held on the 18th of June, 1915, at room 440, Douglas Building, Los Angeles, California; and, if so, who were present at that conference?

A. There were present at that conference Thomas J. Griffin, F. A. Stephenson, W. W. Wilson and myself.

Q. 278. Please state whether or not, at that time and place with the same parties present, said Thomas J. Griffin made the following statement, to wit: "I am very frank to say that for all-round purposes the Wilson reamer is better than the Double"?

Mr. LYON.—Objected to as leading, incompetent, not the proper method of proof of conversation, and as irrelevant, incompetent and not rebuttal.

Mr. BLAKESLEE.—Attention is called to the fact that this is a proceeding on impeachment, as to this question, and is predicated upon the record of the defendant in this case.

A. Yes, sir; he made that statement.

Mr. LYON.—Defendant moves to strike the answer from the record and exclude it from consideration, upon the grounds and each of the grounds stated in the objection to the question.

(Deposition of Elihu C. Wilson.)

Q. 279. (By Mr. BLAKESLEE.) In said deposition of Thomas J. Griffin the following question was asked of him: "XQ. 446. At that same conference did you not state and did you not make the offer that for a certain sum of money you would sell certain rights, which you had, or claimed to have, to Mr. E. C. Wilson, the complainant in this case; and certain evidence which you claimed to have to support such alleged rights, and that then, if you were wanted by the defendant in this case, or Mr. Double, in order that you might testify, you could arrange to be out of the jurisdiction of this court?" What have you to say as to any [760] such occurrence?

Mr. LYON.—The same objections as noted to the preceding question.

A. That proposition is the one he put up to us, exactly. He had certain patents, he said, and patent rights, which he wished to sell and he said he had evidence in support of same which would be an absolute defense against any suit which Double could bring or had brought against us for alleged infringements of the Double underreamer patents, and stated, furthermore, that he would never testify for Mr. Double in these underreamer cases again, that he was absolutely done with the bunch, and sick and tired of it, and that he would not under any circumstances whatever testify for Mr. Lyon in these underreamer cases again. He made particular mention of the fact that he was absolutely done with Mr. Lyon. And then he stated, furthermore, that if it would be to our interests, he would leave this jurisdiction alto-

(Deposition of Elihu C. Wilson.)

gether, as he wanted to go to Canada.

Mr. LYON.—We move to strike the answer, and each part and parcel thereof, from the record and exclude it from consideration, on each of the grounds stated in the objection to the question, and as the conclusion of the witness and not a statement of the conversation.

Q. 280. (By Mr. BLAKESLEE.) Said Thomas J. Griffin was also, in his cross-examination, asked the following question: “XQ. 447. Did you not, at that conference, state and offer that for this same consideration, and included in your general offer, you could and would turn over to Mr. E. C. Wilson, there present, certain evidence which would prevent and preclude the Union Tool Company, the defendant herein, and its president, Edward Double, and their associates, and parties jointly interested with them, from winning any suit at present pending between these last-mentioned parties and interests and Elihu C. Wilson, the complainant [761] herein, and the Wilson & Willard Manufacturing Company and their allied interests?” What have you to say as to these matters?

Mr. LYON.—Same objections as noted to the preceding question.

A. Yes, sir. I have just mentioned the fact that he stated that he had evidence, in Texas and elsewhere, which, if we desired—would pay the price that he asked—he could supply us with, and which would be an absolute defense against any suits which Mr. Double might have against us in the un-

(Deposition of Elihu C. Wilson.)

derreamer business. He stated that these inventions were clearly anticipated by reamers which he had used, and which reamers we could use as an absolute defense against Mr. Double. He said these reamers were available; he knew where to get them; they were in Texas somewhere, and he gave us the names of the men who had manufactured them and he gave us the names of certain shops wherein these reamers were supposed to have been made, and the names and the firms checked up with reports we have since received from Bradstreet's and Dun's indicating that such firms existed at that time and that such men were associated with those firms.

Mr. LYON.—We move to strike the answer, and each part and parcel thereof, from the record, upon each of the grounds stated in the objection to the question, and upon the further ground that the same, and parts thereof, are not responsive to the question, and are incompetent, not the best evidence, and that the same is not impeachment, not material matter.

Mr. BLAKESLEE.—It will be understood that while we have referred to procedure on impeachment, with respect to a certain question asked of this witness this morning, it is not to be inferred that this procedure is limited in its purpose solely to impeachment, but its manifest purpose and bearing will be understood, including its direct bearing upon the qualification of the [762] witness Thomas J. Griffin to testify as an expert on behalf of the de-

(Deposition of Elihu C. Wilson.)

pendant in this case, and its tendency to establish bias of said Thomas J. Griffin.

Q. 281. (By Mr. BLAKESLEE.) The following question was likewise asked of said Thomas J. Griffin in his cross-examination: "XQ. 450. Did you not, at that same conference and at the same time and place and in the presence of the same parties, further state that you were sick and tired of the Double and Union Tool Company bunch, using an oath in describing them, and wanted to get away from them, and get what you could out of E. C. Wilson, the complainant herein, for what evidence, information and patent rights you could bring to said E. C. Wilson?" What have you to say as to these matters?

Mr. LYON.—Same objections as noted to the preceding question and answer.

A. Yes, sir; he made that statement to us. He contended he hadn't had fair treatment at the hands of the Union Tool Company "bunch," as he expressed it, and that he was sick and tired of their treatment; that they had refused to pay him royalties which were coming to him and he had about \$2500 due him then which they had refused to pay, and that he was altogether very much dissatisfied with their treatment and that he wanted to get out and get entirely free of them and get away from here altogether, and that he was willing to sell out what information and what interests he had and sell them to us and get what he could for them.

(Deposition of Elihu C. Wilson.)

Mr. LYON.—Move to strike the answer from the record and exclude it from consideration, and each part and parcel thereof, upon each of the grounds stated in the objection.

Q. 282. (By Mr. BLAKESLEE.) Said Thomas J. Griffin was also asked the following question in cross-examination: “XQ. 453. Did you not, at that same interview, at the same time and place and in the presence of the same parties, state that you could [763] produce for said E. C. Wilson evidence that would prove that the said R. E. Bole, patentee of Defendant’s Exhibit Bole Patent, perjured himself in giving his testimony in said Interference No. 37,126, and in his testimony before this same court in the suit now on trial, pending between said R. E. Bole and said Edward Double, on the one hand, and said E. C. Wilson and the Wilson & Willard Manufacturing Company, defendants, in that a certain exhibit, in evidence in both these cases, being a certain tracing purporting to show a key, with alleged witnesses’ signatures thereon, and further matter, was not a genuine document, but that the alleged signatures thereon of one Fahnestock and one Grigsby were in fact forged upon said tracing—were, in fact, traced upon such tracing linen, and not traced thereupon by said parties?” What have you to say as to these matters?

Mr. LYON.—Objected to upon each of the grounds stated in the objection to the preceding question, and particularly as leading, and, if for the purpose of im-

(Deposition of Elihu C. Wilson.)

peachment, upon a matter totally foreign and immaterial to any of the issues in this case.

Mr. BLAKESLEE.—Attention is called to the fact that the record in this case, of the defendant's shows an attempt to read into one of the infringing structures certain matter patented by said Defendant's Exhibit Bole Patent referred to in the question.

Mr. LYON.—The mere fact that the defendant may be using the invention patented in and by said Bole Patent does not place said Bole patent in issue in this case, as shown by the exhibits in this case, to wit, the records of this court in suit, No. B-19, in equity. This court has adjudicated the validity of said Bole patent in a suit in which this court had personal jurisdiction of the parties thereto, and which adjudication can not be collaterally attacked in this proceeding, the only purpose of said Bole patent in evidence being to show that, so far as the invention therein described and patented is concerned, the use thereof by [764] this defendant has not been an appropriation of anything that was in the original Wilson patent, but a subsequent invention.

Mr. BLAKESLEE.—We were quite responsively assuming that the defendant would in this matter attempt to show that it was acting within alleged rights in the use of this key; and the testimony under consideration pertains to the validity of such rights, and what that validity or invalidity might have been found to be had the alleged evidence pur-

(Deposition of Elihu C. Wilson.)

ported to be within the control of the witness Griffin been placed before the court when such question or validity was passed upon.

Mr. LYON.—The objection is renewed, as the validity of such Bole patent is not in issue in this case.

A. Yes, sir; he made that statement to us. He said Bole had lied about it; that he had told him that he, himself, Bole, had traced those signatures on that drawing.

Mr. LYON.—Move to strike the answer from the record, and each part and parcel thereof, on the grounds stated in the objection, and on the further ground that it is not responsive, and not the proper method of impeachment.

Q. 283. (By Mr. BLAKESLEE.) I call your attention to the following testimony given by said witness Thomas J. Griffin in the said cross-examination: "XQ. 457. Now, as a matter of fact, did you not design or were you not responsible for the design of Complainant's Exhibit Type 'F' Reamer, Defendant's Exhibit in this case? A. I have previously testified fully on that matter already. I refer you to such answer, as I have no further answer to make on it. XQ. 458. Is it not a fact that you so stated at the conference on June 18th, as to which I have previously questioned you, at the same time and at the same place and in the presence of the same parties? A. I fully testified on this matter, and refer you to my previous answer. There is nothing to elaborate thereon. XQ. 459. Did you not, at that conference

(Deposition of Elihu C. Wilson.)

[765] and at that time and place and in the presence of those parties, say that you invented that type F reamer? A. The same answer.” What have you to say as to these matters?

Mr. LYON.—Objected to upon each of the grounds stated in the objection to the preceding question and set forth in the motion to strike the answer from the record and exclude the same from consideration.

A. I don't remember definitely whether he said that or not. I do remember, however, that he stated that he himself was the inventor of the reversible slips for rotary drive, a patent for which had just at that time been issued to Mr. Edward Double and applied for by Double personally, Double representing himself to be the sole inventor.

Mr. LYON.—We move to strike the answer, and each part and parcel thereof, from the record, on each of the grounds stated in the objection thereto, and upon the ground that the same is not responsive to the question, and immaterial to the issues in this case.

Q. 284. (By Mr. BLAKESLEE.) And what Edward Double did he refer to at that time?

Mr. LYON.—Same objection.

A. The party to this suit; the president of the Union Tool Company.

Q. 285. (By Mr. BLAKESLEE.) I call your attention to the following testimony given by said Thomas J. Griffin in said cross-examination: “XQ. 460. At that same conference, and at that same

(Deposition of Elihu C. Wilson.)

time and place and in the presence of the same parties, did you not state that it was your belief that Dick Smith, the foreman of the Union Tool Company, invented the Double underreamer known as the 'Double Improved Underreamer,' being substantially Complainant's Double Improved Underreamer and Cutters?" What have *you say* as to these matters? [766]

Mr. LYON.—The same objection, and each thereof, as noted to the preceding question. The further objection that it is immaterial what the belief of the said witness Thomas J. Griffin was.

A. Yes, sir; he made that statement at that conference.

Q. 286. (By Mr. BLAKESLEE.) I call your attention to the following testimony in said cross-examination of said Thomas J. Griffin: "XQ. 462. Did you not, at that same conference, and at the same time and place and in the presence of the same parties, say that to the best of your knowledge Edward Double, the president of the Union Tool Company, the defendant herein and the alleged inventor of Defendant's Exhibit Double Patents Nos. 1, 2 and 3, had never invented anything?" What have you to say as to these matters?

Mr. LYON.—Same objection as noted to the preceding questions.

A. Yes, sir; he made that statement, and stated that in his opinion Double didn't have the mechanical ability to make an invention of that sort, and cited, as an instance of Double's inability to grasp

(Deposition of Elihu C. Wilson.)

the mechanical action, a pump which was being manufactured at the Double shop or Union Tool Company shop, manufactured as an invention—represented to be an invention—of Double's and which pump had been giving him, Mr. Griffin, trouble in the field. Mr. Griffin was operating the pump, Mr. Double didn't understand the mechanical action of that pump, although he pretended to be its inventor.

Mr. LYON.—We move to strike the answer, and each part and parcel thereof, from the record, upon each of the grounds stated in the objection.

Q. 287. (By Mr. BLAKESLEE.) Who proposed this conference that we are discussing now?

Mr. LYON.—Objected to as leading, and as calling for [767] the conclusion of the witness and not for a statement of fact.

Q. 288. (By Mr. BLAKESLEE—Continuing.) Add to the question: "if you know."

A. The conference was the outgrowth of a communication from Mr. Griffin wherein he stated he wanted to see us or have a talk with us about these patent affairs. He took the matter up with Mr. W. W. Wilson first.

Mr. LYON.—We move to strike the answer from the record, and each part thereof, on the grounds stated in the objection, and upon the further ground that it is hearsay, incompetent, not the best evidence. It appears from the answer of the witness that he has no personal knowledge.

A. (Continuing.)—I might add that he was in

(Deposition of Elihu C. Wilson.)

conference with me and negotiated with me in regard to these matters before this conference, and that this conference was the outcome of the propositions which he had been submitting, and we had this conference for the purpose of ascertaining what he had to offer.

Mr. LYON.—Same motion and objections.

Q. 289. (By Mr. BLAKESLEE.) I call your attention to the following question asked of said Thomas J. Griffin on said cross-examination: “XQ. 466. At that same conference, and at the same time and place and in the presence of the same parties, did you not offer to furnish proof, as part of your offer, in consideration of the said sum of \$10,000, which you requested said E. C. Wilson to pay you, that with respect to the matter of this Defendant’s Exhibit Bole Patent testimony given by the witness Heber and testimony given by the witness Adams was false, in that the said Robert E. Bole made sketches of the key involved in the controversy concerning said Bole patent for both said Heber and said Adams immediately before they testified in said Interference No. 37,126, and that said sketches were so made for said Heber and Adams by said Bole in the presence of defendant’s counsel in this [768] case and in your own presence?” What have you to say in regard to these matters?

Mr. LYON.—The question is objected to as leading, as not the proper method of proof of conversation, and, if for the purpose of impeachment, not the

(Deposition of Elihu C. Wilson.)

proper method of impeachment and as to an immaterial matter having nothing to do with the issues in this suit.

A. Yes, sir; he so stated.

Mr. LYON.—Move to strike the answer from the record and exclude it from consideration, upon each of the grounds stated in the objection to the question. And it will be understood that each of these motions to strike out and exclude from consideration are submitted at the final hearing of this cause upon the submission of the cause without the necessity of any further notice or motion. This applies to all motions of similar character heretofore made or hereafter made in this case on behalf of defendant.

Mr. BLAKESLEE.—It is understood, likewise, on behalf of complainant, that the objections noted of record are to be understood as being made, without the necessity of repetition, before the submission of the case, and without further notice, to be ruled upon by the court upon such submission, either as extant in the record or as elected to be urged by counsel for the complainant.

Q. 290. Reference has been had in your testimony this morning to a certain Interference, No. 37,126, pending between yourself and Robert E. Bole, concerning the original patent of Defendant's Exhibit Bole Patent, offered in this suit. To your knowledge, has there been any adjudication on the matter of said Interference in the Patent Office?

Mr. LYON.—That is objected to as immaterial and irrelevant to the issues in this case, and as an attempt

(Deposition of Elihu C. Wilson.)

to impeach collaterally the judgment and decree of this court, and as incompetent, not the best evidence, not the proper method of proof.

A. Yes, sir; there has been. [769]

Q. 291. (By Mr. BLAKESLEE.) How many such decisions, if more than one?

Mr. LYON.—Same objection.

A. Two decisions.

Q. 292. (By Mr. BLAKESLEE.) And in whose favor have both or either of such decisions been, as between yourself and said Robert E. Bole?

Mr. LYON.—Same objections.

A. Both decisions were in my favor.

Q. 293. (By Mr. BLAKESLEE.) And both decisions found you to be the true, original, sole and prior inventor of the exhibit of said Bole patent?

Mr. LYON.—Same objections, and as leading.

A. They did.

Q. 294. (By Mr. BLAKESLEE.) The Wilson Underreamer and the Wilson Patent are shown as being provided with or containing a bottom bolt or safety-bolt, which is numbered 11 in Complainant's Exhibit Wilson Patent. Can you state whether your company has ever made Wilson underreamers substantially in accordance with the teachings of the Wilson patent referred to from which such bottom bolt was omitted?

Mr. LYON.—Objected to as leading, and as immaterial, and as irrelevant, and as not rebuttal testimony.

(Deposition of Elihu C. Wilson.)

Mr. BLAKESLEE.—The record speaks for itself.

A. Yes, sir; we did.

Q. 295. Were any such reamers sold, and to your knowledge used, without such bottom bolt?

Mr. LYON.—Same objections.

A. Yes, sir.

Q. 296. (By Mr. BLAKESLEE.) Please compare such bottom bolt of the Wilson underreamer with the bolt which holds in place the detachable block of Complainant's Exhibit Reamer Type "F," with [770] respect to construction, arrangement and function.

Mr. LYON.—Objected to as not rebuttal, and as fully gone over by the witness in his testimony heretofore given in the case.

A. These bolts are similar in design, if not exactly the same in design. The mortised square hole to admit the wrench to set the bolt up in place and the holes drilled for cotter-pin to hold the bolt in place in the reamer body, the standard of thread, length and diameter of the bolt, size of the head, and the form of nut which is affixed to the reamer body, are all the same. In fact, we have sold bolts for Wilson underreamers which have been used in the Type "F" Double Underreamer.

Q. 297. (By Mr. BLAKESLEE.) Now, with the detachable block omitted and the bolt in place, in Reamer Type F, without the block please compare the function of said bolt with the function of the bottom bolt 11 of the Wilson patent and reamer?

(Deposition of Elihu C. Wilson.)

Mr. LYON.—The same objections as noted to the preceding question, and upon the further ground that it is a mere hypothetical construction as thus applied to Type F Reamer.

A. Its function would be identically the same—to assist in strengthening the prongs, prevent spreading of the prongs, if such a strain would occur. It would be a safeguard against the loss of cutters, in the event of breakage of the T or mandrel to which the cutters are attached.

Q. 298. (By Mr. BLAKESLEE.) From your experience as a manufacturer of underreamers, and underreamers having space projections at the lower ends or forks or prongs connected by such a bolt, please state whether or not the forks or prongs of the Type F Underreamer referred to, either with or without such bolt connecting them, would be strong enough to stand up under service in reaming without the detachable block of the Type F reamer?

Mr. LYON.—Same objections as made to the preceding question. [771]

A. Yes, sir; the prongs of either the Model F Double Underreamer or the Wilson underreamers are sufficiently strong to stand up under ordinary reaming without the use of the safety bolt or without the use of the block and safety-bolt employed to hold the block in place in the Type F Reamer.

Q. 299. (By Mr. BLAKESLEE.) That is, with or without the block?

A. With or without the block, or with or without the bolt.

(Deposition of Elihu C. Wilson.)

Q. 300. Please state what the practice is as to remachining the bodies and forks of the Wilson reamer, after wear, if there be such, has upset or removed any of the formation in those parts?

Mr. LYON.—That is objected to as assuming that there is a practice, and as not rebuttal, having been fully gone over in the former depositions.

A. For several years we have advertised, generally, the Wilson underreamer as being the only one in use which could be remachined after the body had been worn to such a point that the cutters were ordinarily considered too loose. We could cut off the spreading-bearings and machine the mouth further back up into the reamer body, drill a new hole for the safety-bolt, cut a new slot for the key, and retemper the body, and it was then just the same as a new one. We made the bodies extra long in order to permit that multiple use of the body.

Q. 301. (By Mr. BLAKESLEE.) Can you state whether such remachining is possible with Complainant's Exhibit Reamer Type "F"?

Mr. LYON.—Same objections as to the preceding question.

A. Yes, sir; such remachining is possible. In fact, they are advertising now that they can do that.

Mr. LYON.—Move to strike the latter part of the answer from the record and exclude it from consideration, on the ground [772] that it is incompetent, not responsive to the question, hearsay, not the best evidence.

(Deposition of Elihu C. Wilson.)

Q. 302. (By Mr. BLAKESLEE). Either with or without the bolt holding the detachable block in Complainant's Exhibit Reamer Type "F" and either with or without such block and bolt, please compare the lower end of such reamer type F with the lower end of the Wilson underreamer or the Wilson patent structure, with respect to any pronged or forked construction that you find?

Mr. LYON.—Objected to as not rebuttal, and as having been fully gone over by the witness in his previous deposition in this case as part of complainant's opening proofs.

Mr. BLAKESLEE.—The record speaks for itself.

A. In both cases, or in each case, the lower extension, or, namely, that part of the body in which the cutters are confined, consist simply of two forks, one at either side of the body of the reamer. The end of the body terminates in two prongs, forming a fork. That is true in either Type F Double Underreamer or the Wilson underreamer. The cutters are held in place by dovetail ways or grooves or projecting shoulders, which are on the inner faces of these two prongs. In these grooves or ways the cutters fit, and the shanks of each are confined between the two prongs. The extreme lower ends of the two prongs in either case terminate in lugs or projections which form spreading-bearings for the cutters, which bearings expand the cutters into full reaming position, and also bearings upon which the cutters rest while in reaming position. These spreading-bearings are

(Deposition of Elihu C. Wilson.)

interposed between the cutters, keeping them spread apart. Each of the prongs is drilled for the purpose of forming holes into which the safety-bolt or the block-bolts is inserted and screwed firmly into place. In either case the lugs or projections which are the lower terminations of the forks are free from any dovetail shoulders which hold the cutters in position, preventing further outward extension or expansion of the cutters. Such shoulders [773] or dovetails are wholly above the lugs referred to. They are on the inner faces of the prongs, but appear entirely above the spreading-bearings which form the lower projection or lug of the prongs. In other words, the sole function of the lugs or projections which form the extreme lower extension of the prongs is to form expanding faces and bearing faces for keeping the cutters expanded while in reaming position. When the cutters collapse they are pulled downwardly over the end of these lugs or projections and the cutters collapse between these lower ends or projections, not riding on these lugs or projections in any way except for the thrust or contact due to the compression of the spring, which tends to pull the cutters upwardly against the extreme lower ends of these lugs. The action in both cases is exactly the same; the construction of the lower ends of the reamer bodies is the same.

Q. 303. (By Mr. BLAKESLEE.) You heard did you, the testimony given by the witness Knight for the defendant in this case?

(Deposition of Elihu C. Wilson.)

A. I heard part of it. I didn't hear it all.

Q. 304. There are certain portions on the inner faces of the prongs of Complainant's Exhibit Type F Reamer which lie between the upwardly and inwardly inclined pairs of dovetails or ways. Do you find these present in the Wilson underreamer or the Wilson underreamer patent?

A. No, sir. Those fragments of the hollow slotted extension, as I would call them, are not present in the Wilson underreamer, for the reason that the Wilson underreamer does not use the hollow slotted extension in any way.

Q. 305. And its provision produces a difference, does it, together with the formation of the Double cutters, with respect to the exact travel of the cutters in collapsion and expansion.

Mr. LYON.—Objected to as leading.

A. There is a difference, yes, sir, as to the exact movement [774] of the cutters when expanding or collapsing, due to the presence of that fragment of the hollow-slotted extension which still remains in type F.

Q. 306. (By Mr. BLAKESLEE.) Does this or does it not make any difference, broadly speaking, with respect to the collapsion and expansion of the cutters in both the reamer type F and the Wilson reamer occurring in the coaction between the cutters and the prongs as such?

Mr. LYON.—Objected to as leading.

A. No, sir; the upwardly and outwardly inclined spreading-bearing faces at the extreme lower end of

(Deposition of Elihu C. Wilson.)

the prongs or spreading-lugs in either case expands the cutters when the cutters are drawn upwardly over them by the contraction of the spring, and the cutters then ride up on the other faces of the lugs or projections and bear upon them when in reaming position. That is true in both cases, either with the Wilson reamer or the so-called Double Underreamer Type F.

Q. 307. (By Mr. BLAKESLEE.) And this interposed metal, while it assists in the expansion and collapsion of the cutters does it or does it not entirely produce such action?

Mr. LYON.—Objected to as leading.

Q. 308. (By Mr. BLAKESLEE—Continuing.) That is, these fragments of the hollow-slotted extension?

A. No, sir. If the block is in place—the renewable block, I mean—it assists in the expansion of the cutters and assists in holding the cutters apart, unless it wears to such a point that the cutters do not come in contact with it, which is liable to occur. And, furthermore, the stock on the lugs or projections which form the extreme lower end of the forks also plays a part in the expansion and contraction of the cutters.

Q. 309. Are they parts of any such hollow-slotted extension or remnants thereof? [775]

Mr. LYON.—Objected to as leading.

Q. 310. (By Mr. BLAKESLEE—Continuing.) These last mentioned lug surfaces?

A. There is a portion of that lug surface which

(Deposition of Elihu C. Wilson.)

may be considered a fragment of the hollow-slotted extension, namely, that part which projects inwardly beyond the bottom of the grooved plane for the dovetails.

Q. 311. And how about the remaining part?

Mr. LYON.—Same objection.

A. The remaining part acts just the same as the Wilson underreamer in expanding or contracting the cutter.

Q. 312. (By Mr. BLAKESLEE.) And do these ledges on the prongs of the Reamer Type F in themselves constitute, or constitute parts of, any hollow slotted extension in this Reamer Type F as you find such reamer constructed?

Mr. LYON.—Objected to as leading, and as indefinite and uncertain as to what is meant by the term "hollow-slotted extension."

A. Type F as made by the Union Tool Company's shop has never had a hollow-slotted extension in it. To say that it is a fragment of the hollow-slotted extension would be to say that they first make the Double Underreamer Type F with a hollow-slotted extension the same as the one having parallel bearing-faces, and all other types of reamers known as Double underreamers, and then, after having it completed, would machine it out, cutting it away, leaving the fragment or ledge you refer to in the inner walls of the prongs of the reamer. But such is not the operation. That reamer is bored out and then all the stock removed, no slot being cut in there for a key, as exists in the Double underreamers. Conse-

(Deposition of Elihu C. Wilson.)

quently it is impossible to conceive of it being a fragment of a hollow-slotted extension, because in that type of reamer no hollow-slotted extension ever existed. [776]

Q. 313. (By Mr. BLAKESLEE.) Does or does not any such hollow-slotted extension exist in this Reamer Type F to any further extent than it does in the Wilson underreamer, or in any particular whatsoever.

Mr. LYON.—That is objected to as leading, and as indefinite and uncertain as to what is meant by the term “hollow-slotted extension.”

A. There is no hollow-slotted extension in Type F, and never was. Never was in any Wilson underreamers.

Q. 314. (By Mr. BLAKESLEE.) What, as you make it out from your experience in manufacturing and patenting underreamers, is the primary purpose of the detachable block found in this Type F Reamer?

A. Well, from my knowledge of patent applications and from my knowledge of mechanics, the block is merely an attempt on the part of Mr. Double to evade the Wilson underreamer patent. It is superfluous; the bearing is not needed; it has a sufficient bearing on the prongs to keep the cutters spread apart and to keep them in operating position when in use, without having the block in place at all. Without that block in place—and, by the way, the reamer is used without the block—there is left nothing to distinguish it from the Wilson underreamer,

(Deposition of Elihu C. Wilson.)

and the only opinion I can have of that block and its purpose is that it was simply an effort to disguise the type F so that it wouldn't be considered a Wilson underreamer.

Mr. LYON.—I move to strike each part and parcel of the answer from the record, on the ground that it is not responsive to the question, merely argumentative, incompetent, and the guess and conclusion of the witness.

Q. 315. (By Mr. BLAKESLEE.) What have you to say with respect to this Type F Underreamer in connection with the mode of assembling the spring-actuated rod and cutters, in comparison with the Wilson underreamer and the Wilson patent? [777]

A. They are assembled in exactly the same manner. The spring-actuated rod or T, with cutters in place, is inserted into the reamer body at the mouth of the reamer body, and the key is placed in this slot, which key extends through the slot in the T underneath the spring, forming a seat for the spring, and which holds the T, the spring and the cutters in place in the reamer body.

Q. 316. Are there or are there not present in Type F Reamer or do there or do there not pertain to the method of expansion and collapsion of the cutters of the Type F Reamer, certain specific and detail features which, while not differentiating from the Wilson reamer and patent in general principle and construction, produce slight differences in the exact detail action of the cutters, and, if so, in what particulars?

(Deposition of Elihu C. Wilson.)

Mr. LYON.—Objected to as leading.

A. There are certain differences. The Double Type F Reamer—so-called Double reamer—uses the double dovetail, that is, two different pockets for dovetails, and the dovetails are formed by grooves planed into the walls of the inner faces of the forks of the body and are upwardly and inwardly inclined. Those differences make a slight difference in the construction of the reamer body—slightly different from the Wilson underreamer. Nevertheless, they are dovetails, and they are on the inner faces of the prongs of the reamer body, have spreading-bearings at the lower end of the prongs, and so forth.

Q. 317. (By Mr. BLAKESLEE.) And in the collapsion and expansion of the cutters do the cutters of Type F Reamer travel in just the same paths that the cutters of the Wilson patent and reamer follow?

Mr. LYON.—Same objection.

A. No, sir. The exact motion or travel of the Double underreamer cutter, even in Type F, is slightly different from [778] that of the Wilson underreamer.

Q. 318. (By Mr. BLAKESLEE.) And how about the degree of expansion, in comparing the two?

A. I think the expansion and contraction of the Wilson underreamer is greater than that of the Double, even in type F.

Mr. LYON.—Move to strike the answer from the record, on the ground that it is incompetent, not responsive to the question.

(Deposition of Elihu C. Wilson.)

Mr. BLAKESLEE.—At this point we offer in evidence, as Complainant's Exhibit Jones' Patent, the copy of said Jones' patent identified on the cross-examination of Fred W. Jones as, "Complainant's Exhibit on Cross-examination of Fred W. Jones. Copy of Jones U. S. Patent No. 809,570," and ask that the same be so marked.

Mr. LYON.—Objected to as irrelevant and immaterial, needlessly encumbering the record.

The document last referred to and offered in evidence is marked "Complainant's Exhibit Copy of Jones U. S. Patent No. 809,570."

Mr. BLAKESLEE.—Likewise, we offer in evidence the three photographs marked for identification heretofore as, "Complainant's Exhibit on Cross-examination of Fred W. Jones, Photographs of Jones' Model of Defendant's Exhibit, Fred W. Jones' Reamer Type 1," and ask that the same be marked "Complainant's Exhibit F. W. Jones' Reamer Model Photos."

Mr. LYON.—Objected to as incompetent, no foundation laid, not the best evidence.

The photographs last referred to and offered in evidence are marked "Complainant's Exhibit F. W. Jones' Reamer Model Photos."

Q. 319. (By Mr. BLAKESLEE.) Do you know whether the Union Tool Company, the defendant in this case, is now putting out any [779] published matter, by catalog or otherwise, purporting to picture or in any way describe reamers such as Complainant's Exhibit Reamer Type F?

(Deposition of Elihu C. Wilson.)

A. Yes, sir; he is. (Witness produces catalog of Union Tool Company and turns to pages 28 and 29.) That is a recent publication. It was just published within the last—

Mr. LYON.—Week.

Mr. BLAKESLEE.—Complainant offers in evidence this copy of catalog so produced, as “Complainant’s Exhibit Defendant’s Catalog, and particularly pages 28 and 29 thereof,” and asks that the same be so marked.

Mr. LYON.—The offer is objected to in so far as it refers to any part of portion of such catalog other than pages 26, 27, 28 and 29, as needlessly encumbering the record.

Mr. BLAKESLEE.—We do not wish the exhibit as offered to be considered further than the pages 26, 27, 28 and 29 just referred to by counsel, together with the title page of the catalog, and assume that counsel admits that this is a sample of catalogs recently issued by the defendant corporation.

Mr. LYON.—It is admitted that pages 26, 27, 28 and 29 are true copies of an issue of catalog which defendant company has recently published and is now circulating in the offering for sale of its underreamers; and, in view of this admission, we object to the title page offered, as unnecessarily encumbering the record.

Mr. BLAKESLEE.—That page of the catalog may be withheld from the offer, in view of the stipulation.

The catalog last referred to and offered in evidence

(Deposition of Elihu C. Wilson.)

is marked "Complainant's Exhibit Defendant's Catalog, and particularly pages 28 and 29 thereof."

Q. 320. Can you also produce any photograph of the several parts of the Wilson underreamer as now manufactured by or on [780] behalf of yourself?

A. (Witness produces photograph.)

Q. 321. What does this photograph show?

A. It shows Wilson underreamer disassembled, showing all the parts and tools that were used in assembling it.

Mr. BLAKESLEE.—Complainant offers in evidence photograph just produced by witness and asks that the same be marked "Complainant's Exhibit Wilson Unassembled Underreamer Body."

The photograph last referred to and offered in evidence is marked "Complainant's Exhibit Wilson Unassembled Underreamer Body."

Mr. BLAKESLEE.—Counsel may cross-examine. [781]

Deposition of James Crete Hubbard, for Complainant.

JAMES CRETE HUBBARD, a witness produced on behalf of the complainant in rebuttal, being first duly cautioned and solemnly sworn to testify the truth, the whole truth, and nothing but the truth, deposed as follows in answer to questions put by Mr. Blakeslee:

Direct Examination.

Q. 1. Please state your full name, age, residence and occupation.

A. James Crete Hubbard. Residence, Ingelwood,

(Deposition of James Crete Hubbard.)

California. Age, thirty-five. Occupation, salesman for Wilson & Willard.

Q. 2. With whom are you connected as salesman at present?

A. Wilson & Willard Manufacturing Company.

Q. 3. The concern of which Mr. E. C. Wilson, the complainant in this case, is president?

A. Yes, sir.

Q. 4. You are employed considerably by that company in visiting the various oil well properties and fields in California, are you? A. Yes, sir.

Q. 5. I call your attention to Complainant's Exhibit Reamer Type F, on the floor, here, or, rather, standing up with its end on the floor, parts of the same being removed and on the floor, and ask you if you have ever seen such an underreamer as that in the California oil fields?

A. Yes, sir; I have.

Q. 6. Did you ever see any such underreamer used or attempted to be used in those fields?

A. Yes, sir.

Q. 7. Where?

A. I saw one on the General Petroleum, at Taft, California, or H. & H. Lease.

Q. 8. And when was that? [782]

A. That was between the 1st and 5th of June, 1915.

Q. 9. What, if anything, was being done with it when you saw it?

A. They were running the reamer. I saw the reamer pulled out of the hole and disconnected from the stem.

(Deposition of James Crete Hubbard.)

Q. 10. And laid aside? A. And laid aside.

Q. 11. And did that reamer as pulled from the hole at that time and place have in place such a block as you find in position between the forks at the end of this Type F Reamer Exhibit before us?

Mr. LYON.—Objected to as leading.

A. No, sir; the block was removed.

Q. 12. (By Mr. BLAKESLEE.) Was there any such block connected with the reamer at that time?

Mr. LYON.—Objected to as leading.

A. There was no block; no.

Q. 13. (By Mr. BLAKESLEE.) Was there or was there not any bolt or pin such as constitutes part of this Exhibit Reamer connected with or part of that reamer at that time?

Mr. LYON.—Objected to as leading.

A. Yes; the bolt was in the reamer.

Q. 14. (By Mr. BLAKESLEE.) Where was the bolt?

A. Right through the bottom of the reamer; through here (showing).

Q. 15. And was there or was there not anything in place on that bolt?

Mr. LYON.—Objected to as leading.

A. Why, the reamer was completely set up; that is, the cutters and the key and bolts were in there, with the exception of the block.

Q. 16. And what was the general condition of the reamer as it was pulled from the hole, as you saw it?

(Deposition of James Crete Hubbard.)

A. Well, it showed it had been used; it was worn. It had a tendency to spread a little here at these points.

Mr. BLAKESLEE.—Witness points to the lower ends of the forks or prongs.

Mr. LYON.—No, sir; the witness points to the lower ends of the dovetails.

Mr. BLAKESLEE.—All right. Near the lower ends of the forks or prongs.

Mr. LYON.—He points to the ends of the dovetails.

Mr. BLAKESLEE.—Well, not the upper end.

Mr. LYON.—The lower end.

Mr. BLAKESLEE.—Witness points to the lower ends of the dovetails. Put it that way and it will be all right.

Q. 17. Can you find that bolt there on the floor, Mr. Hubbard?

A. (Witness exhibits bolt.)

Q. 18. How did the bolt which was in place in the reamer as you have testified, when it was withdrawn from the hole, compare with the bolt being part of this Exhibit Type F Reamer?

A. You mean, how did it compare with this bolt?

Q. 19. Yes, sir.

A. I didn't see the bolt removed.

Q. 20. How about the part of the bolt you could see?

A. The bolt was very much like this bolt.

Q. 21. How about size or diameter?

A. It looked very much the same.

(Deposition of James Crete Hubbard.)

Q. 22. Could you say whether it was smaller or larger than that bolt in diameter?

A. It looked very much the same size. There may have been a slight difference. I couldn't tell as to that. This bolt and the bolt used in that reamer looked very much the same. In fact, I would say that they were identical, although I wouldn't be positive of that unless they were calipered. [784]

Q. 23. Were you at this oil well property while the reamer was being used previous to its withdrawal from the hole? A. Yes, sir.

Q. 24. How long a time were you there while the reamer was being operated?

A. Oh, I was there several times. I suppose I stayed two hours at a time.

Q. 25. While this reamer was in the hole?

A. The reamer was in the hole a couple of times while I was there. Other times they were not using the reamer.

Q. 26. And how long was it in the hole, to your knowledge, prior to the time you saw it withdrawn, as you have testified?

A. Well, probably it was in— They were running the reamer when I went in the rig, and I probably was there about half an hour before they pulled out.

Q. 27. And was the reamer being used in the customary manner, that is, hooked up with the string? A. Yes, sir.

Q. 28. And worked up and down by the walking beam? A. Yes, sir.

Mr. BLAKESLEE.—Counsel may cross-examine, if you desire to do so at this time.

(Deposition of James Crete Hubbard.)

Cross-examination.

(By Mr. LYON.)

XQ. 29. This was not the first time, then, that you had seen that particular underreamer at that particular place?

A. No; I had seen it there a couple of times.

XQ. 30. And had conversation with the men in the rig in regard to it prior to that time?

A. I didn't ask them very much about the reamer.

XQ. 31. Who was in charge there at that time?

A. Mr. Sperry. [785]

XQ. 32. He was the head driller?

A. No, sir; he was the superintendent.

XQ. 33. Who was the driller?

A. The driller at that time was a party by the name of Brown.

XQ. 34. Do you know his initials?

A. I do not.

XQ. 35. Did you have any conversation with them at the previous visit as to whether or not they used this block in the reamer?

A. I asked them nothing about it.

XQ. 36. Did you ever see the reamer in use at any time except this one time when you say you saw it pulled out?

Mr. BLAKESLEE.—Objected to as repetitious, the witness having testified he saw it at two other times.

A. This one reamer?

XQ. 37. (By Mr. LYON.) The Type F Reamer; yes.

(Deposition of James Crete Hubbard.)

A. As I said, I had been there a couple of days at different times of the day, and I saw them; they were running this reamer. But when I saw the reamer pulled out of the hole at one time—at this time I am speaking of—I had been in the rig about half an hour when they pulled this reamer out, and I noted that the block was not in the reamer.

XQ. 38. Did you see the reamer at any other of these times when you saw it was used?

A. No, I saw the reamer after it was disconnected from the stem and setting on the floor.

XQ. 39. With or without the block?

A. Without the block.

X̄Q. 40. Had you ever seen this Type F Reamer in use at any other place? [786]

A. Never saw it in use.

XQ. 41. Have you seen it connected with a string of tools anywhere else?

A. No, I have seen it in the rig.

XQ. 42. With or without the block?

A. Disassembled.

XQ. 43. Disassembled. You don't know whether they used it there with or without the block?

A. I don't know.

XQ. 44. What size reamer was this at this place where Sperry was the superintendent?

A. It was either a four and a quarter or four and a half.

Mr. LYON.—That is all.

Mr. BLAKESLEE (After conferring with Mr. LYON).—We will take an adjournment now until

(Deposition of James Crete Hubbard.)

Wednesday morning at ten A. M., at which time counsel may have an opportunity to cross-examine the witness E. C. Wilson.

Whereupon the further taking of these depositions was continued until Wednesday, September 1, 1915, at 10 o'clock A. M., at the same place. [787]:

Wednesday, September 1, 1915, 10 o'clock A. M.

Met pursuant to adjournment; present as before.

**Deposition of Elihu C. Wilson, for Complainant
(Recalled).**

ELIHU C. WILSON, recalled for further direct examination, before cross-examination, in answer to questions put by Mr. Blakeslee, testified as follows:

Q. 322. In your testimony as to the similarity of the prong formations of the lower ends of the bodies of the Wilson reamer and the reamer Wilson patent, on the one hand, and the Complainant's Exhibit Reamer Type "F," on the other hand, what effect upon these similarities are we to understand to be due to the provision of the opposite parallel faces of the ledges found on the inner faces of the prongs or forks of the Type F reamer?

A. Those ledges produce a somewhat different action, as I think I have previously stated, in the collapse and expansion of the cutters. They guide or direct the cutter in its upward or downward movement and while expanding or collapsing, producing a different travel or a different action from that of the cutters of the Wilson underreamers, which cutters swing freely inwardly as they collapse, there being no ledge or corresponding parallel bearing-

(Deposition of Elihu C. Wilson.)

faces on the inner faces of the prongs such as those formed by these ledges on Type F Double Reamer, and that free swing is a different motion or different action from that of the Double underreamer-cutters on any of their types.

Q. 323. And this produces, does it, or does it not—
or, rather, the effects you have just recited produce, do they or do they not—a difference between the specific paths traveled by the cutters in their expansion and collapsion?

A. Yes, sir. The paths of the Double underreamer cutters confined entirely between the two walls of their dovetail ways, the outer one of which is upwardly and inwardly inclined, and the inner wall of which (and which is a part of the ledge spoken of [788] heretofore in describing the Type F Double Reamer) is parallel to the opposite bearing-face, or, rather, the bearing-face of one ledge and the bearing-face of the opposite ledge are parallel. There are no such faces or bearings on the Wilson underreamer, and the Double cutter confined within these upwardly and inwardly inclined dovetail ways are obliged to traverse the course bounded by these bearings or parallel bearing-faces and upwardly and inwardly inclined bearing-faces or dovetails. The Wilson cutters, not being so confined, travel a different course in their expansion and collapsion.

Q. 324. Have or have not these distinctions you have made, including the distinctions previously made with respect to the action of the Double cutters

(Deposition of Elihu C. Wilson.)

directly caused by the upwardly and inwardly inclined dovetails on the prongs or forks, any such bearing upon the pronged or forked structures under consideration as to differentiate the Wilson and Type F reamers as of forked or pronged construction and provided with dovetails or ways and with spreading-bearings at the ends of the prongs or forks, there being safety-bolts disposed between the forks or bridging the space between the forks in each instance.

Mr. LYON.—That is objected to as leading and suggestive, and as incompetent, calling for the mere conclusion of the witness and not a statement of facts.

Mr. BLAKESLEE.—The question does not fairly tend to lead, but merely to broadly summarize previous testimony for the purpose of summarizing the answer; and the query itself is not saddled with any suggestion.

A. The Wilson underreamer has no bearing-faces to take up the inward thrust of the cutters that are parallel—the bearings of the opposite side of the reamer. The design is different from any other reamer or any reamer which Double has ever made. All Double underreamers have opposite parallel bearing-faces to [789] take up the inward thrust of the cutters. Nothing of that sort exists on any type of the Wilson underreamer that has ever been made; but the Double reamer, even in Type F, has bearing-faces to take up the inward thrust, which are parallel. However, the two reamers are alike,

(Deposition of Elihu C. Wilson.)

in that both of them are forked mouth underreamers, namely, all of that part of the reamer body, in each instance, which confines the cutters, consists simply of two prongs forming a fork. They are alike in that particular. They are also alike in that in either case they have dovetail ways or bearing ledges or shoulders to act as retaining means for the cutters, and these dovetail ways or shoulders appear on the inner faces of these prongs. The Type F Reamer and Wilson reamer are also alike in that in each case the lower extremities of the two prongs are formed into wedge-like lugs or projections which form spreading means for expanding the cutters and for keeping the cutters expanded while in reaming position; but both reamers, namely, the Type F underreamer and the Wilson reamer, are provided with safety-bolts which span across from the extreme lower end of one prong to the other and act as a brace or stay to keep the forks from spreading, if such strain should be sufficient to cause them to spread, and also to act as a precautionary measure against the loss of cutters should the T be broken while in use.

Q. 325. And as to the method of assembling of the two reamers, please state again how this method in each case compares with that in the other.

A. They are absolutely the same. First, the spring is put in place on the mandrel or T; the cutters are then put in place on the head of the T; and the spring, T or mandrel, and cutters, are inserted into the reamer body at the mouth of the reamer

(Deposition of Elihu C. Wilson.)

body. A pilot key is then driven in place underneath the spring through the slot in the reamer body and through the slot in the T or mandrel, which pilot key gives the necessary tension to the spring to hold the cutters up in proper position. The pilot. [790] key is driven out by driving in the key, by which key the parts mentioned are held in suspension in the reamer body. The safety-bolt is then applied, and the safety-bolt, or, in some instances, the block with the safety-bolt through it, is inserted in the Type F Double Reamer. In some instances it is used without the block—in Type F, I mean to say—using only the safety-bolt. The operations of placing the cutters—assembling of the reamers, I should say—in either case are exactly the same.

Q. 326. Is such method of assembling of the parts of the reamer possible in the old style Double reamer or in the reamer shown in Defendant's Exhibit Double No. 1?

Mr. LYON.—Objected to as leading.

A. No, sir; the construction is entirely different.

Q. 327. (By Mr. BLAKESLEE.) And in order to assemble the parts and take down the reamer or remove the cutters in this patented type of Double reamer, what, particularly, is necessary?

A. It is first necessary to overcome the tension of the spring, which is done, in the most usual method, by applying an eye-bolt to the T or mandrel—I should say the mandrel—pulling downwardly on the mandrel. The key, which projects entirely through the cutters and through the mandrel, can then be re-

(Deposition of Elihu C. Wilson.)

moved. The cutters can then be removed, as there is nothing to hold them in position after the key has been taken out. The spring and mandrel are placed within the reamer body, and can be removed only by breaking the middle joint in the reamer body. There is no such construction as the middle joint in the Type F Double underreamer, or, no such joint exists in the Wilson underreamer.

Q. 328. From your experience as a manufacturer and inventor of underreamers, what have you to say with respect to the feasibility of using a block, such as that shown in the Type F Reamer, mounted upon the safety-bolt or pin spanning the space [791] between the prongs at the lower end of such reamer?

A. I have previously stated that the block is an unnecessary provision. The bearings at the lower extremities of the fork, namely, the spreading-bearings or lugs, are ample to take up all the thrust or inward thrust-bearing of the cutters.

Q. 329. Just a moment. The question was more as to the feasibility of using the block—the feasibility?

A. The block, when in use, will become burred—does become burred—and the lower end of the forks or prongs become battered, or “upset,” as we term it in mechanics. Also, the spreading-bearings on the faces of the lower end of the forks also upset and have a tendency to crowd over against the block in such a manner as to make it practically impossible to either remove the block or put it in place in the reamer body. This extreme difficulty and incon-

(Deposition of Elihu C. Wilson.)

venience is so great that the drillers simply dispense with the use of the block, as *it not* needed anyway.

Q. 330. In order to strengthen such safety-bolt, is there any necessity of providing any such enlargement, or bushing, or jacket, or shoulder, or whatever else you may wish to call it, upon such safety-bolt as found in the Type F Reamer?

A. No, sir; those bolts do not need such strengthening. Years of service of the Wilson underreamer safety-bolts have proven that they are ample to stand all the ordinary strains, and the safety-bolts in the Type F Double underreamer are almost if not exactly the same in proportions.

Mr. BLAKESLEE.—Counsel may cross-examine.

Cross-examination.

(By Mr. LYON.)

XQ. 331. Where have you seen the Type F Reamer used, Mr. Wilson?

A. I don't know as I have seen it actually in use. I have seen it in the derrick. [792]

XQ. 332. And who was it, to your own personal knowledge, that discarded the use of the block from the bolt at the bottom of Type F Reamer on account of the burring or battering or upsetting of such block or bottom of the reamer?

A. I have never seen them discarded myself.

Mr. LYON.—In view of the statement of the witness, we move to strike the testimony of the witness from the record and exclude it from consideration, in so far as it attempts to detail any such action as the burring or battering up of the block or of the

(Deposition of Elihu C. Wilson.)

bottom of the reamer, or of the discarding of the use of the block in the Type F Reamer, on the ground that the same is hearsay and not the best evidence.

Mr. BLAKESLEE.—Whether or not the witness has seen Type F or Double reamer blocks discarded because of the battering of blocks and associated parts, does not pertain to the question of whether or not he has seen such parts battered; and he has testified he has seen such reamers in the rig.

XQ. 333. (By Mr. LYON.) Please state when and to whom you sold the bottom bolts for the Wilson underreamer which, as you state, were used in the Type F Double underreamer?

A. That answer (answer to Q. 296) may be erroneous in that I am not sure whether we sold them, or one of our agents sold the bolts. Possibly those bolts were sold through the Lucey Supply Company at Taft. They were sold to the General Petroleum Company.

XQ. 334. You have no personal knowledge of the sale or the use of those bolts, have you?

A. I didn't see the bolts in use.

Mr. LYON.—We move to strike from the record and exclude from consideration the testimony of this witness just given in regard to any use of bolts, manufactured by the Wilson & Willard [793] Manufacturing Company, in the Type F Double underreamer, and, also, the last sentence of the answer to the question 296, on the ground that the same is incompetent, not the best evidence, hearsay.

XQ. 335. What parts of the bits or cutters in

(Deposition of Elihu C. Wilson.)

Complainant's Exhibit Type "F" Reamer collapse between the lugs, or projections, or "prongs," as you call them, at the bottom of that reamer?

A. There is a portion of the cutters of the Type F that is between the prongs at all times, and that is the lug by which the cutters are attached.

XQ. 336. You mean, then, the lugs which in the Type F underreamer take the place of the head of the T-bar, or the key, and connect the lugs with the spring-actuated rod or solid mandrel?

A. I mean the upper part—the inner face of the upper part of the cutter.

XQ. 337. Is there any such corresponding part shown, described or illustrated in the complainant's exhibit, Complainant's Exhibit of Wilson Patent in suit?

A. No, sir. Mr. Double, Mr. Bole, or Mr. Jones borrowed that idea from old man Brown, I think.

XQ. 338. Do you not mean—

A. The Brown patent has the same device.

XQ. 339. Do you not mean from Fred W. Jones, and, particularly, from Defendant's Exhibit F. W. Jones' Reamer Type 2?

A. Well, Brown's reamer used that lug before that type of Jones' reamer was made. The Brown patent antedated Jones' invention.

XQ. 340. When did you first learn or hear of an underreamer like Defendant's Exhibit Fred W. Jones Reamer Type 2?

Mr. BLAKESLEE.—Objected to as not cross-examination.

(Deposition of Elihu C. Wilson.)

A. Type 2 is this one, isn't it (indicating)?

XQ. 341. (By Mr. LYON.) Yes; that is it.

A. The first time I ever heard of it or ever knew that such a thing existed was the day you showed it to me in your office only a short time ago. [794].

XQ. 342. What business were you engaged in in the fall and latter part of 1901?

Mr. BLAKESLEE.—Same objection.

A. I was in the office of the Baker Iron Works in this city.

XQ. 343. (By Mr. LYON.) And what was your employment? A. Cost clerk.

XQ. 344. And, as such, what did you do?

Mr. BLAKESLEE.—It will be understood that the same objection is repeated to all this line of questions.

A. I figured the cost of the manufacture of oil well tools and other machinery of various sorts.

XQ. 345. (By Mr. LYON.) For what purpose?

A. Billing them out, and determining our price as a basis upon which to bill them.

XQ. 346. Did you, on September 10, 1901, bill to the Enterprise Machine Works, Santa Paula, California, as such price-clerk for the Baker Iron Works, one set of forgings for F. W. Jones' Pat. Underreamer, for 7 5/8" covering mandrel, of soft steel, and one pair of cutters of bit steel, all as per blue-print? And I show you a copy of such bill at this time.

Mr. BLAKESLEE.—Same objection; and, furthermore, as irrelevant, incompetent and immaterial,

(Deposition of Elihu C. Wilson.)

the making, in a clerical capacity, and sending out of any such bill, not in any sense constituting or involving notice to the complainant of the structure referred to or devise covered by such bill.

A. I have no recollection of having billed it. I possibly did; but if I did, it went through merely as thousands of other orders, with reference to which I simply figured up the time and weight of material. I never saw the drawings; had nothing to do, whatever, with the design; and simply dealt with the figures I reported, namely, the weight of the material and the amount of time employed. [795]

XQ. 347. (By Mr. LYON.) And where, then, did you get for your memorandum, made at that time, such entry, "All as per blue-print," which appears on the records of said Baker Iron Works of such invoice?

Mr. BLAKESLEE.—Same objection.

A. I don't know that I got the record at all. I don't know that I had anything to do with it. Possibly I did. A forging of that size and that kind would give absolutely no indication of what sort of shaped underreamer that was to be. Forgings don't look like the finished article, by any means.

XQ. 348. (By Mr. LYON.) Did you not, in 1902, see a Jones' reamer like Defendant's Exhibit Fred W. Jones' Reamer Type 2 at the R. H. Herrin Company's place of business on North Los Angeles street in the city of Los Angeles, California.

Mr. BLAKESLEE.—Objected to as not cross-examination.

(Deposition of Elihu C. Wilson.)

A. Well, the Oil Well Supply Company has several reamers there, and some very odd and very wonderful designs, most of which, as I have always understood, came from their Pittsburgh shops, and I have always had the impression they were Heggem's designs or Mr. Cummings', so-called inventors. I have never seen the reamers apart. I couldn't tell, nor did I ever know, whether a reamer was made with anything like this design until I saw it in your office.

XQ. 349. (By Mr. LYON.) You testify positively that you have not seen a reamer exactly like Defendant's Exhibit Fred W. Jones' Reamer Type 2 either at the R. H. Herrin Company's place of business on Los Angeles street, in the city of Los Angeles, California, in the year 1902, or at the National Supply Company's place of business, in Los Angeles City, during 1902?

Mr. BLAKESLEE.—Same objections.

A. Yes, sir; I can testify that I never saw that type of reamer apart, never knew the reamer at all.
[796]

XQ. 350. (By Mr. LYON.) Well, did you see the bottom of such reamer at that time, and at either of those places?

A. No, sir; I don't believe I ever did.

XQ. 351. Did you ever see or were the drawings referred to in this invoice like Defendant's Exhibit Fred. W. Jones' Reamer Type 1?

Mr. BLAKESLEE.—Objected to, on the same grounds; and, furthermore, upon the ground that

(Deposition of Elihu C. Wilson.)

there is no proof of the paper referred to by counsel as being an invoice or anything else. The same has not been proven or has not been admitted. It is not the proper method of proof, not cross-examination.

A. There were a great many different designs and styles of underreamers that would appear and then would disappear and no more would be seen or heard of them, all being tried out—different designs at that time. Along in 1901, '2, '3 and '4 there was a period when great demands were being made by oil operators for a reamer which would actually do the work. That was the occasion for my launching into the field myself. No reamers at that time had been satisfactory, none of them had stood up; and if this reamer was ever seen by me, it was one of those that was of such small consequence in results and in interest that I don't remember of ever having seen it or hearing of it being used. I remember that a man by the name of Jones, whom I never saw until a few weeks ago—that is, to the best of my recollection—and whom we knew as living in Santa Paula, was reputed to be the inventor of underreamers, and was known to be in conflict with Mr. Double, of the Union Tool Company, and as having some troubles with Mr. Double in regard to conflicting patent rights. I remember it was common report that Double had forced Jones to discontinue the manufacture of some style of an underreamer, claiming that Jones was infringing some patent rights of his. It was common talk among the supply houses at that time, and the oil well men, that Jones didn't have the money.

(Deposition of Elihu C. Wilson.)

to fight him was the reason he discontinued manufacturing the reamers. [797]

XQ. 352. (By Mr. LYON.) When was it that you knew that it was such common talk and that Jones had such reamers?

A. I think it was about the time that Ed Mills had his trouble with Double.

XQ. 353. That was in 1903?

A. 1903 or '4, or somewhere around in there.

XQ. 354. And you heard this report that you speak of as early as—prior to the time that you actually commenced making, and prior to the time that you had actually invented, as you claim, the Wilson reamer? Is that correct?

A. That is possibly correct; yes, sir.

XQ. 355. Would you consider, based upon your experience, that an underreamer like Defendant's Exhibit F. W. Jones' Underreamer Type 1 would be a practical or operative underreamer for underreaming oil well casing?

Mr. BLAKESLEE.—Objected to as not cross-examination.

A. Yes, sir. It will underream. The Wilson underreamer seems to have so clearly established what an operative underreamer should be that when we compare the older makes of underreamers of different designs that preceded it, we come to the conclusion that they were not operative at all. As a matter of fact, they did operate, and they did underream, but they didn't do it as well as the Wilson underreamer, of course.

(Deposition of Elihu C. Wilson.)

Mr. LYON.—That is all.

Redirect Examination.

(By Mr. BLAKESLEE.)

RDQ. 356. When did you first hear that the F. W. Jones, you have testified about made any claim to have invented the so-called Double underreamer, or to have produced any of the inventions patented by Edward Double, the president of the defendant corporation, or to have had anything to do with the inventing or devising of such underreamers? [798]

Mr. LYON.—That is objected to as leading, and as irrelevant and immaterial to the issues of this suit.

A. The first intimation I ever had that Jones had anything to do with the invention of Double underreamers was probably five or six months ago, maybe six or eight—

RDQ. 357. (By Mr. LYON.) What?

A. Five or six months ago, maybe six or eight, that he had anything to do with the invention of any of the reamers which Double has patented in his own name.

RDQ. 358. (By Mr. BLAKESLEE.) When was it that you first were able to locate Mr. Jones?

Mr. LYON.—That is objected to as calling for the conclusion of the witness, and as assuming facts not testified to by the witness, and as irrelevant and immaterial to this case.

A. A man who is in some way related to Jones was in our shop, the Wilson & Willard Manufacturing Company. He had been an employee of the Union Tool Company's shop. In mentioning patents and

(Deposition of Elihu C. Wilson.)

discussing litigations pending, he asked why we didn't get in touch with Mr. Jones, who had formerly been associated with Double in some way at the Santa Paula shop years ago. He then told us that he understood Mr. Jones had contributed to those inventions. He gave us Jones' address, and we wrote Mr. Jones a letter, and received a reply.

RDQ. 359. (By Mr. BLAKESLEE.) And how long ago was this?

A. Oh, that was probably five or six months ago. I don't remember the exact date.

RDQ. 360. And when did you first see Mr. Jones?

Mr. LYON.—Same objections.

A. Two or three months ago.

RDQ. 361. (By Mr. BLAKESLEE.) And when was it you first heard, in any manner other than as mere hearsay, that F. W. Jones claimed to be the inventor of any of the inventions patented by Double?
[799]

A. The first letter I received from Mr. Jones stated that he had contributed to the invention of Double reamers, he having assisted in the invention of the first reamer, which they manufactured at the Santa Paula shop, or the shop of the Union Oil Company, the one, he stated, which had been used to defeat Mills in the litigation against the Mills' patent. I think that is about all he said.

Mr. LYON.—We move to strike the answer from the record, and exclude it from consideration, as incompetent, not the best evidence, no foundation laid for the introduction of secondary evidence, and not

(Deposition of Elihu C. Wilson.)

responsive to the question.

RDQ. 362. (By Mr. BLAKESLEE.) And when were you first able to meet Mr. Jones himself?

Mr. LYON.—That is objected to as calling for the conclusion of the witness and not for a statement of the facts.

A. Within a short time. Two or three or three or four weeks after the receipt of the first letter from him, I made a trip to McFarland, in Kern County, California, and went out to Mr. Jones' place, which is within about three miles of McFarland, and saw Mr. Jones and had a talk with Mr. Jones; and Mr. Jones again explained that he was, at the least, a coinventor of that first reamer which they had manufactured, namely, the one with the removable block.

RDQ. 363. (By Mr. BLAKESLEE.) When did you first see any evidence backing up this statement last quoted to you?

Mr. LYON.—That is objected to as irrelevant and immaterial, and as calling for the conclusion of the witness, and not the best evidence, incompetent.

A. I saw a wooden model of an underreamer. At the time I first saw it, I didn't know who was the inventor; supposed it was another party. I also saw a reamer which was pointed out to me as being a Jones invention; and that is the reamer No. 2, which I have referred to previously, and which was first shown to me by [800] Mr. Lyon in his office a short time ago.

RDQ. 364. (By Mr. BLAKESLEE.) State, as

(Deposition of Elihu C. Wilson.)

nearly as you can, when, please. You have not given any time for the first wooden model.

A. The wooden model I saw first here some month or six weeks ago, and at that time I supposed it was the invention of a man by the name of Pardee, as Mr. Griffin said he was the inventor of that reamer.

RDQ. 365. And when was it you first saw this Type 2 Reamer in Mr. Lyon's office?

A. The exact date we can get. It was during the time we were taking the deposition of Mr. A. P. Knight, in Mr. Lyon's office, in this case.

RDQ. 366. When did you first know that F. W. Jones had anything whatsoever to do with Jones Reamer Type 1, in evidence?

A. I think the first time I knew that Mr. Jones had anything to do with the invention of that Reamer Type 1, in evidence, was in Bakersfield, at the time we were taking Mr. Jones' deposition there in this case. The first time I ever saw it was when we were taking Mr. Jones' deposition in this case there, a few days ago, in the Southern Hotel.

RDQ. 367. And when the Type 2 Jones Reamer, in evidence, was shown to you, was any contention made that it was devised prior to the date upon which Double is supposed to have made his first Double invention patented?

Mr. LYON.—That is objected to as incompetent, irrelevant and immaterial and as leading.

A. No, sir; no such contention was made.

RDQ. 368. (By Mr. BLAKESLEE.) Then, is it or is it not true that you first saw anything tend-

(Deposition of Elihu C. Wilson.)

ing to reinforce the contentions of F. W. Jones that he had invented a reamer prior to the date of the invention of any Double reamer was at Bakersfield [801] some two weeks and a half ago when you there saw the Type 1 Jones Reamer, in evidence, or, possibly, some day or two before that, when I reported to you that Mr. Lyon had stated to me that Jones had invented such a reamer?

Mr. LYON.—Objected to as leading, as incompetent, calling for the conclusion of the witness, not the best evidence, no foundation laid for the introduction of secondary evidence, and as irrelevant and immaterial to the issues of this case.

A. That is the first underreamer I ever saw that was definitely pointed out to me as being a Jones underreamer. When Mr. Jones referred to a removable block underreamer, reference to which he made at the time I visited him at McFarland, I knew at once which reamer he meant, because I was familiar with the patent.

Mr. LYON.—Move to strike the answer from the record, and exclude it from consideration, upon each of the grounds stated in the objection to the question, and upon the further ground that the statements made by Mr. Jones are not competent—they are hearsay.

Mr. BLAKESLEE.—Just note that Mr. Jones is a witness in this case.

RDQ. 369. Did you or did you not see any underreamer or model at that time?

Mr. LYON.—Same objection.

(Deposition of Elihu C. Wilson.)

A. No, sir.

RDQ. 370. (By Mr. BLAKESLEE.) And prior to the meeting with this man who came to your shop who had been employed with the Union Tool Company, the defendant, some months ago, had you ever heard it even contended that said F. W. Jones was sole or joint inventor of any underreamer patented by Double?

Mr. LYON.—That is objected to as leading, and as incompetent, not the best evidence, calling for the conclusion of the witness, not for a statement of facts, irrelevant and immaterial to the issues in this case. [802]

A. No, sir; I think that was the first time I ever heard that statement, I had heard, as I have stated before, that Mr. Jones and Mr. Double had some differences as to patent rights on underreamers and Double had threatened Jones with a suit.

RDQ. 371. (By Mr. BLAKESLEE.) But had you heard, in that connection, that Jones contended to be the inventor of the Double underreamer?

Mr. LYON.—Same objections as last noted on the record.

A. No, sir.

RDQ. 372. (By Mr. BLAKESLEE.) Now, speaking of the Brown patent as antedating the Jones invention, in your cross-examination, did you mean the Brown patent or the—

A. The article.

RDQ. 373. — the Brown invention or the Brown reamer?

(Deposition of Elihu C. Wilson.)

Mr. LYON.—That is objected to as leading, and as irrelevant and immaterial to the issues of this case.

A. The Brown underreamer, which was later patented, was devised before any of the Double underreamers or Jones reamers were devised.

RDQ. 374. (By Mr. BLAKESLEE.) Then, which of the mentioned things in the last question did you refer to in your cross-examination?

Mr. LYON.—Same objection.

A. I referred to the Brown underreamer.

Mr. BLAKESLEE.—That is all.

Recross-examination.

(By Mr. LYON.)

RXQ. 375. When did you first hear of such Brown underreamer?

A. In 1902, or '3, or '4—all along since then. We always heard that the Baker Iron Works and all the other shops understood that Brown had invented an underreamer, and that some [803] other parties had acquired all his interests for little or nothing—simply cheating him out of it. This was the common talk, and that is about as much as I knew about a Brown underreamer, except for the patent, which I saw as early as 1907 or 1908. 1907 or 1908, I think, was the first time I ever saw any drawing or any sketch or anything that gave me any idea as to what the Brown patent really was, or what the Brown invention really was. I never saw a model of it; I never saw a reamer.

RXQ. 376. You have had Fred W. Jones down here in Los Angeles at your cost and expense for

(Deposition of Elihu C. Wilson.)

some considerable time, now, have you?

Mr. BLAKESLEE.—Objected to as not cross-examination, and calling for a conclusion of the witness.

A. I sent him money to come down here on; yes, sir.

RXQ. 377. (By Mr. LYON.) And have been paying him for his time?

A. I have agreed to pay him a fair wage for his time for getting evidence for us.

RXQ. 378. And how much have you agreed to pay him?

A. I don't know whether there is any definite agreement, I don't remember. He is probably worth about five dollars a day.

RXQ. 379. And you had made that agreement with him prior to the time he gave his deposition in this case, had you? A. No, sir.

RXQ. 380. Had you talked over your agreement with him at the time?

A. I may have made a proposition to him prior to that time, but I had no idea at that time that you were going to subpoena him or use him as a witness.

RXQ. 381. But you had made a proposition prior to that time?

A. I had made him a proposition prior to that time that if [804] he could gather certain evidence together we would be glad to get it. He said, "Well, it will take considerable time." I said, "Well, we will be willing to pay you a reasonable wage for the time you require."

(Deposition of Elihu C. Wilson.)

Mr. LYON.—That is all.

Redirect Examination.

(By Mr. BLAKESLEE.)

RDQ. 382. As a matter of fact, have you or have you not, up to the present time, advanced to said F. W. Jones, directly or indirectly, anything further than money for his actual expenses?

Mr. LYON.—That is objected to as calling for the conclusion of the witness. The witness has declined to state, in dollars and cents, what he has paid Mr. Jones to date.

A. We have paid Mr. Jones a hundred dollars to date.

RDQ. 383. (By Mr. BLAKESLEE.) And, as against that, is he or is he not to render you a statement of what his expenses are and have been for the last ten days or so?

A. Yes, sir; it is understood that that money was to be used in defraying his expenses.

RDQ. 384. And had you made him any proposition as to paying him for his time, or anything more than his expenses in obtaining such evidence as he could for you, prior to the time he testified in this case?

Mr. LYON.—That is objected to, as not the proper method of proof of a conversation, as leading, calling for the conclusion of the witness and not for a statement of fact.

A. No, sir. There was no agreement, or understanding, nor have I ever made any proposal to him to pay anything other than simply his expenses and

(Deposition of Elihu C. Wilson.)

a reasonable wage for what time he is obliged to be away from his ranch.

RDQ. 385. (By Mr. BLAKESLEE.) And has what that reasonable [805] wage or pay for time is to be been agreed upon between you and Mr. Jones?

A. No, sir. I don't believe it has. I would expect to pay him about five dollars a day.

RDQ. 386. Well, to your knowledge, has there been any such agreement?

A. Not to my knowledge has there been any such agreement. If there has been any price mentioned, I don't remember it.

RDQ. 387. Have you given me any instructions of any kind with respect to any such agreement with Mr. Jones?

A. Have I given you any instructions in regard to such?

RDQ. 388. Yes. A. No, sir.

Mr. BLAKESLEE.—That is all.

Mr. LYON.—That is all.

February 23, 1916.

Pursuant to instructions this day from witness Elihu C. Wilson, testifying on behalf of himself, the complainant, I hereby add to his deposition the following:

I do not wish by any of my testimony to have it understood, but quite the contrary, that I ever received any disclosure in any manner of the Jones Underreamer or Underreamers referred to in my deposition, or anything pertaining thereto, prior to

(Deposition of Elihu C. Wilson.)

the invention of my invention covered by the Wilson patent in suit. [806]

Saturday, September 4, 1915, 11 o'clock A. M.

Met pursuant to stipulation and agreement of counsel, at the office of Raymond Ives Blakeslee, 728 California Building, Second and Broadway, Los Angeles, California; present as before.

Deposition of Edward L. Mills, for Complainant (in Rebuttal).

EDWARD L. MILLS, produced on behalf of complainant, in rebuttal, being duly sworn by the Notary Leo Longley, testified as follows in answer to questions put by Mr. Blakeslee:

Direct Examination.

Q. 1. Please state your full name, age, residence and occupation.

A. Edward L. Mills, occupation, president of the Mills Iron Works. Age, forty-seven.

Q. 2. Residence, Los Angeles?

A. Residence, Los Angeles.

Q. 3. What is the general nature of your business, Mr. Mills?

A. Well, we manufacture oil and water well tools. Some special work.

Q. 4. Have you at any time ever manufactured any underreamers for enlarging oil well holes?

A. Yes, sir.

Q. 5. When did you first commence manufacturing any such tool, oil well tool?

A. Well, as nearly as I can remember, about fifteen or eighteen years ago.

(Deposition of Edward L. Mills.)

Q. 6. And have you, off and on, since then, manufactured and repaired such tools?

A. Yes, sir.

Q. 7. Are you acquainted with the construction of underreamers known in the field and market as the Wilson reamer and the Double reamer? [807]

A. Well, I think I am fairly well acquainted with them.

Q. 8. By the Wilson reamer you mean the reamer manufactured by the Wilson & Willard Manufacturing Company, of Los Angeles, California?

A. Yes, sir.

Q. 9. Of which Elihu C. Wilson, the complainant in this case, is the president? A. Yes, sir.

Q. 10. Have you examined Complainant's Exhibit Wilson Reamer in this case?

A. Yes; I have examined it.

Q. 11. Have you examined Complainant's Exhibit Reamer Type "F" in this case? A. Yes, sir.

Q. 12. Please state whether or not, judging by your experience in the manufacture of oil well tools and such familiarity as you may have with oil well tools, this reamer Complainant's Exhibit Reamer type "F" is so constructed that it could be practically operated as a serviceable tool without the detachable block which is formed to fit in at the lower end of the mouth of the reamer; and state your reasons in that respect?

Mr. LYON.—Objected to as incompetent, no foundation laid, the witness not having qualified to answer the question, and as leading, and as irrele-

(Deposition of Edward L. Mills.)

vant and immaterial to the issues of this case.

A. Why, the reamer can be operated without that block, for the reason that without the block there is just as much, if not more, metal in it than there is in the Wilson reamer, that is, speaking of reamers of the same size or for the same size casing.

Q. 13. (By Mr. BLAKESLEE.) What parts of the two reamers, that and the Wilson, do you refer to in your statement that there is as much metal, if not more, present? [808]

A. Well, I refer to that inside ledge, or lug, or whatever you would call it.

Q. 14. And what does that part do in the use of the reamer? Just define it; that is all I want.

A. What is that?

Q. 15. Just define what its purpose is in the reamer.

A. Well, that inside ledge makes more bearing for the cutter.

Q. 16. Will you please point to this ledge you refer to. A. Right here (showing).

Mr. BLAKESLEE.—The witness points to one of the two parallel faces on each of the furcations or prongs at the lower end of the body of the Type F Reamer with which the cutters co-operate or upon which the cutter shoulders rest when the cutters are expanded.

Q. 17. Please similarly state whether or not, judging from your experience and familiarity with underreamers, such ledges as just pointed out by you would or would not, in operation or attempted opera-

(Deposition of Edward L. Mills.)

tion of the reamer, stand up under the strains imposed by the cutters and resist tendencies to shear or crush, without the block being in place, and state your reasons.

Mr. LYON.—Objected to as incompetent, no foundation laid, the witness not having qualified to answer the question, and as leading, and as irrelevant and immaterial to the issues of this case.

A. Well, they would stand up just as well with or without the block. It wouldn't make any difference. Without the ledges are in there there is a little less bearing surface in there; that is all.

Q. 18. (By Mr. BLAKESLEE.) Without what?

A. Without the block and the ledges there is a little less bearing surface. [809]

Q. 19. You mean without the block in addition to the ledges?

Mr. LYON.—Objected to as leading.

A. Yes.

Q. 20. (By Mr. BLAKESLEE.) And what have you to say with respect to the expanding and collapsing actions of the cutters in this Type F. Reamer in comparing the reamer with the block in place with the reamer with the block removed or detached?

A. Why, they would be the same in either case. It bears on the block, and the faces on the reamer there—both of them help to expand the cutters. Either one would expand the cutters.

Q. 21. And what have you, further, to say with respect to the continued use of this reamer with the block as to any effect such use might have upon the

(Deposition of Edward L. Mills.)

block affecting its form or in any way affecting its removal or replacement?

Mr. LYON.—That is objected to as incompetent, no foundation laid, the witness not having qualified to answer the question.

A. I think, from my experience with reamers made with the block in, some years ago, that the reamer would be better off without the block.

Q. 22. (By Mr. BLAKESLEE.) And state your reasons, please?

A. I would state, for the reason that that bolt is not heavy enough to stand the strain of that drilling or jarring caused by the operation of the reamer.

Q. 23. And would that effect take place on the bolt if the block were not on the bolt?

Mr. LYON.—Objected to as leading.

A. Would it take place on the block, you say, or bolt?

Q. 24. (By Mr. LYON.) Bolt.

A. On the bolt.

Q. 25. (By Mr. BLAKESLEE.) Yes. [810]

A. It would to a certain extent; but not much, for the reason that the bolt is not down even with the end of the prongs in the reamer body.

Q. 26. With the block removed would the cutters directly engage the bolt in any action of the reamer?

Mr. LYON.—That is objected to as leading.

A. They would not. They would touch the bolt, though, when in a contracted position.

Q. 27. (By Mr. BLAKESLEE.) And would or would not that be a position occurring when the

(Deposition of Edward L. Mills.)

reamer was being run or operated, actually?

A. It would not. The cutters would not touch the reamer when they were fully expanded—or, would not touch the bolt when fully expanded.

Q. 28. And what can you state would be the effect if any, upon the block, as to its form or shape due to repeated use?

Mr. LYON.—Objected to as incompetent, no foundation laid, the witness not having qualified to answer the question.

A. Well, I believe if the reamer were put into use with that block in there, the block would soon become battered up and have a tendency to spread the reamer and break the bolt.

Q. 29. (By Mr. BLAKESLEE.) Would or would not that affect the block with respect to the getting it out of its position between the prongs or getting it back into that position?

Mr. LYON.—Same objection, and as leading.

A. It would affect the bolt as well as the block, because the bolt would start to shear off and it would be a difficult matter to drive it out.

Q. 30. (By Mr. BLAKESLEE.) And how about the block itself?

Mr. LYON.—Same objection.

A. The block itself could easily be removed by driving it out. [811]

Q. 31. (By Mr. BLAKESLEE.) And how about attempting to replace the block after it had been subjected to long use in a reamer?

Mr. LYON.—Same objections.

(Deposition of Edward L. Mills.)

A. I think after continual use the block would soon become—the hole in the block would soon become so elongated and distorted that it would be impossible to get the bolt in there.

Q. 32. (By Mr. BLAKESLEE.) And how about the faces of the block exposed to wear?

Mr. LYON.—Same objections.

A. The faces of the block would soon become worn off. If the reamer was used long enough it would be worn clear into the bolt.

Q. 33. (By Mr. BLAKESLEE.) And what, if any, effects would be produced by the ends of the block or the parts which directly fit against the prongs?

Mr. LYON.—Same objections.

A. Well, they would be subject to more or less wear.

Q. 34. (By Mr. BLAKESLEE.) And would that have any effect whatsoever upon the ease or possibility of removing the block or replacing it?

Mr. LYON.—Same objection.

A. Yes.

Q. 35. (By Mr. BLAKESLEE.) And what effect?

Mr. LYON.—Same objections.

A. The block would become worn and stretched out and elongated and so it would fit too tight between the prongs.

Q. 36. (By Mr. BLAKESLEE.) And then what effect would that have upon putting the block back in place?

(Deposition of Edward L. Mills.)

Mr. LYON.—Same objection.

A. It would mean refitting the block or putting in a new block. [812]

Q. 37. (By Mr. BLAKESLEE.) Have you, in the course of your experience, repaired underreamers? A. Yes, sir.

Q. 38. And have you ever seen underreamers in operation? A. Yes, sir.

Q. 39. Frequently or— A. Quite often.

Q. 40. And have you examined underreamers after they were withdrawn from the hole?

A. Yes, sir.

Mr. BLAKESLEE.—That is all.

Cross-examination.

(By Mr. LYON.)

XQ. 41. If the block in Type F Reamer is removed and the bits are collapsed, with the spring, mandrel and bits assembled together in the reamer in operative position, what part of the bits would touch the bolt when they are collapsed?

A. I wish to correct my testimony in this regard, upon further inspection of the reamer. There would be no part that would touch the bolt, in that case.

Mr. LYON.—That is all.

Redirect Examination.

(By Mr. BLAKESLEE.)

RDQ. 42. Following your testimony, and particularly with respect to the effects that would occur upon the block incident to long usage, are you prepared to state, one way or the other, whether the reamer would be more serviceable with or without

(Deposition of Edward L. Mills.)

the block applied when the reamer was used?

Mr. LYON.—That is objected to as incompetent, no foundation laid, the witness not having qualified to answer the question. [813]

A. I know that the reamer would be more serviceable without the block.

Mr. BLAKESLEE.—That is all.

Recross-examination.

(By Mr. LYON.)

RXQ. 43. Have you any personal knowledge of any of the use of Complainant's Exhibit Type F Reamer? A. Of the use of it?

RXQ. 44. Yes. A. No; I have not.

RXQ. 45. Save and except, then, as you were called to testify in this case, you have never seen such reamer, have you?

A. I have seen the reamer several times; yes.

RXQ. 46. You never have seen it in use or after it has been used?

A. No. The only reamer I have seen of that type is the reamer here on exhibit.

RXQ. 47. You don't know what have been actually found to be the facts in actual use of this reamer in regard to its use either with or without the block, do you? A. No.

Mr. BLAKESLEE.—This closes the taking of proofs in this case, and the case being on the calendar to be set for final hearing the 7th of the present month, counsel are notified that it will be moved to be set on that day.

Mr. LYON.—Add to that: "and the Notary will

(Deposition of Edward L. Mills.)

have these depositions on file before that time.”

Mr. BLAKESLEE.—They will, probably, provided they can be written and certified. The case will be set, I think.

Mr. LYON.—Demand is made that prior to ten o'clock on [814] September 7, 1915, the proofs in rebuttal on behalf of complainant in this case be filed with the clerk of this court, so that they may be available at that time.

Mr. BLAKESLEE.—We don't know that there is any rule requiring the filing of the proofs in the case if the proofs are completed upon the date on which the case is to be set. But we will assist the notaries in the case in the certifying of such records and filing the same by next Tuesday, if it can possibly be done.

United States of America,
State of California,
County of Los Angeles,—ss.

I, Leo Longley, a Notary Public in and for the County of Los Angeles, State of California, duly commissioned, sworn, and qualified to administer oaths, etc., do hereby certify that the witnesses in the foregoing depositions named, to wit, Elihu C. Wilson, James C. Hubbard, and Edward L. Mills, were by me duly sworn according to law to testify the truth, the whole truth, and nothing but the truth; that the said depositions were taken at the time and place agreed upon by stipulation of solicitors before the respective parties, and pursuant to notices filed herein; beginning on Monday, the 30th day of August, 1915, at the Office of Solicitor for Complainant, 728-30 Cali-

ifornia Building, Los Angeles, California, at the hour of 10:15 o'clock A. M., of said date, and thereafter from day to day, to and including Saturday, the 4th day of September, 1915; and that the foregoing is a full, true and correct transcript of the depositions of said witnesses and of the proceedings taken in connection therewith.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal on this 23d day of February, 1916.

[Seal] LEO LONGLEY,
Notary Public in and for Los Angeles County, State
of California. [815]

[Endorsed]: In the United States District Court, Southern District of California, Southern Division. Elihu C. Wilson, Complainant, vs. Union Tool Company, Defendant. In Equity No. A-4 Consolidated with B-62. Proceedings on Behalf of Complainant, Taken Before Leo Longley, at the Office of Raymond Ives Blakeslee, 728 California Building, Los Angeles, California, Commencing August 30, 1915. Index. Elihu C. Wilson, Direct 618, Cross 652, Redr. 658, 664, Recr. 663; James Crete Hubbard, Direct 641, Cross 644, Edward L. Mills, Direct 666, Cross 672, Redr. 672, Recr. 673. Exhibits: Complainant's Exhibit Copy of Jones U. S. Patent No. 809,570-638; Complainant's Exhibit F. W. Jones Reamer Model Photos-638; Complainant's Exhibit Defendant's Catalog, and particularly pages 28 and 29 thereof-639; Complainant's Exhibit Wilson Unassembled Underreamer Body-640. Filed Feb. 23, 1916.

Wm. M. Van Dyke, Clerk. By Floyd S. Sisk,
Deputy Clerk. [816]

Entered

B. T. P. 336.

Townsend.

**Complainant's Exhibit Wilson Patent—Letters
Patent Issued to E. C. Wilson for Underreamer.**

(Seal) TOWNSEND BROS.

Patents

Los Angeles, Cal.

No. 827,595.

THE UNITED STATES OF AMERICA.

To All To Whom These Presents Shall Come:

WHEREAS, Elihu C. Wilson, of Bakersfield, California, has presented to the Commissioner of Patents a petition praying for the grant of Letters Patent for an alleged new and useful improvement in

Underreamers,

a description of which invention is contained in the specification of which a copy is hereunto annexed and made a part hereof, and has complied with the various requirements of law in such cases made and provided, and

WHEREAS, upon due examination made the said Claimant is adjudged to be justly entitled to a patent under the Law.

Now, therefore, these Letters Patent are to grant unto the said Elihu C. Wilson, his heirs or assigns for the term of Seventeen years from the thirty-first day of July, one thousand nine hundred and six, the exclusive right to make, use and vend the said in-

vention throughout the United States and the Territories thereof.

IN TESTIMONY WHEREOF, I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington, this thirty-first day of July, in the year of our Lord one thousand nine hundred and six and of the Independence of the United States of America the one hundred and thirty first.

[Seal]

E. B. MOORE,

Acting Commissioner of Patents. [817]

James Robert Townsend
Patents
Bradbury Block
Los Angeles.

Elihu C. Wilson,
Underreamer,
Dated July 31, 1906.
Patent No. 827,595.

Mailed

Aug. 7, 1906.

James R. Townsend.

Aug. 7, 1906.

Mr. Elihu C. Wilson,
Bakersfield, Cal.

Dear Sir:

I herewith hand you your above entitled U. S. Letters Patent granted and issued to yourself.

Kindly sign the enclosed duplicate receipts and return them to me.

Very truly,

JAMES R. TOWNSEND,

Enclosures:

1—U. S. Patent No. 827,595.

2—Duplicate receipts.

3—Return envelope.

A— [818]

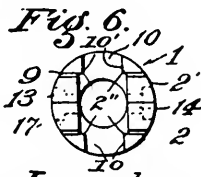
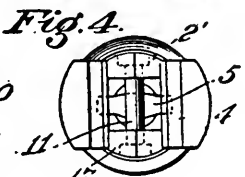
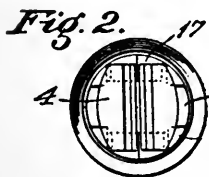
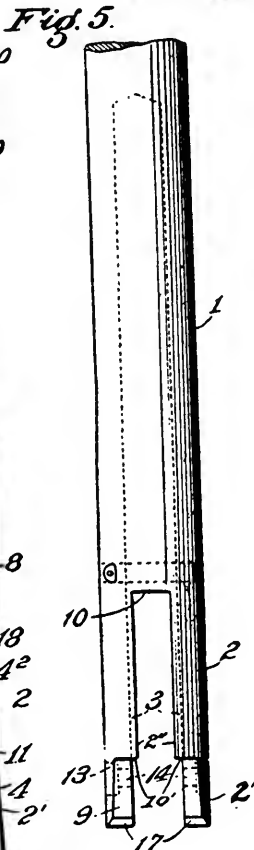
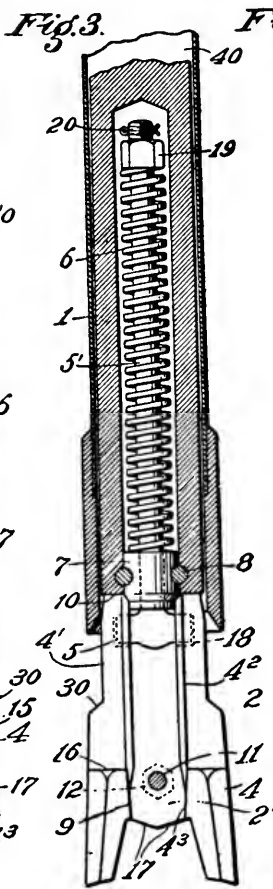
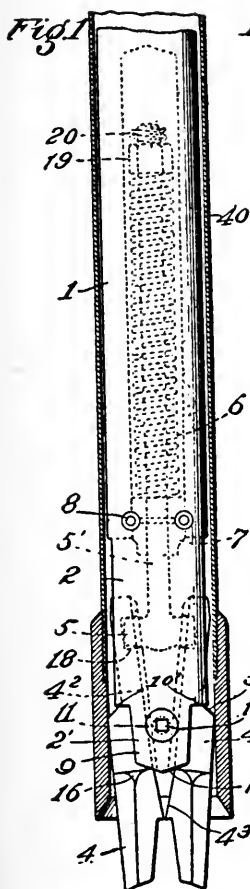
No. 827,595.

PATENTED JULY 31, 1906.

E. C. WILSON.
UNDERREAMER.

APPLICATION FILED NOV 28, 1904.

2 SHEETS—SHEET



Witnesses:
W. C. Holly
B. J. Williams

Inventor,
Elihu C. Wilson
 by *James R. Townsend*
 his atty

No. 827,595.

PATENTED JULY 31, 1906.

E. C. WILSON.
UNDERREAMER.

APPLICATION FILED NOV. 28, 1905.

2 SHEETS—SHEET 2.

Fig. 7.

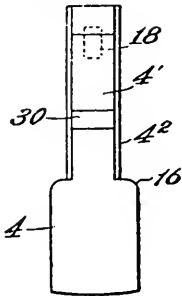


Fig. 8.

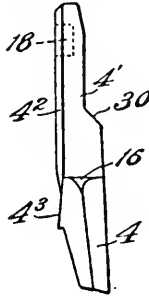


Fig. 9.

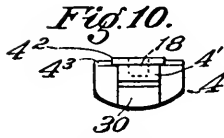
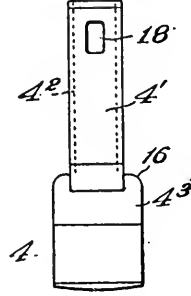


Fig. 13.



Fig. 14.



Witnesses:

b b Holly
b j. Willhaus

Inventor,
Elihu C Wilson.

By James R. Townsend
his Atty

UNITED STATES PATENT OFFICE.

ELIHU C. WILSON, OF BAKERSFIELD, CALIFORNIA.
UNDERREAMER.

Specification of Letters Patent.

Patented July 31, 1906.

No. 827,595.

Application filed November 28, 1905. Serial No. 289,380.

To all whom it may concern:

Be it known that I, ELIHU C. WILSON, a citizen of the United States, residing at Bakersfield, in the county of Kern and State of California, have invented a new and useful Underreamer, of which the following is a specification.

Objects of this invention are to provide an underreamer of superior strength and of superior width and expansion of cutters so as to enable reaming as great a portion of the circumference of the hole as possible at each stroke, to insure greater safety against losing the cutters from the body while reaming, to avoid the necessity of a middle joint in the mandrel or reamer body, and to leave a maximum open space between the cutters to receive the loose material or sludge at the bottom of the well or other opening during the operation of drilling.

By this invention it is possible to increase the strength of the cross or T which suspends the cutters.

In this invention a cross or T formed of a single forging is provided for suspending the cutters.

Another decided advantage is simplicity and convenience of attaching and removing the cutters and suspending devices from the reamer-body.

Another advantage is facility of collapsing the cutters. I so construct the mouth of the underreamer as to dispense with stock between the collapsed cutters, thus enabling the cutters to close together. This feature makes extreme expansion possible and makes the use of maximum amount of stock in shanks of cutters possible, thus insuring maximum strength of cutters.

The accompanying drawings illustrate the invention.

Figure 1 is a view of the underreamer in a casing just before it has passed through the shoe of the casing, the parts being collapsed. Fig. 2 is a view looking at the bottom of Fig. 1. Fig. 3 is a view of this newly-invented underreamer in a well, the same having just passed through the casing-shoe and expanded for reaming the hole below. Portions are shown in mid-section. Fig. 4 is a view looking at the bottom of Fig. 3. Fig. 5 is a view of the reamer-body at right angles to Figs. 1 and 2. Fig. 6 is a view looking at the bottom of Fig. 5. Fig. 7 is a front view of a cutter detached. Fig. 8 is an edge view of a cutter at right angles to Fig. 7. Fig. 9 is a

view of the inside or back of the cutter. Fig. 10 is a view looking down on the top of the cutter. Fig. 11 is a view of the cross. Fig. 12 is a view of the cross at right angles to Fig. 11. Fig. 13 is a side view of the spring seat-block detached. Fig. 14 is a bottom view of the same.

1 designates a hollow body of an underreamer terminating in prongs 2, forming a fork, said prongs having shoulders 2" on their inner faces to form ways 3 for cutters. Said prongs are provided with and terminate in downwardly-projecting lugs 2' to spread the cutters apart.

4 designates the cutters, which are interchangeable; 4', the cutter-shank; 4², bearing-shoulders of the cutters to engage inside the ways 3; 4³, expansion bearing-faces of the cutters on the sides of said cutters.

The inner faces of the prongs 2 are parallel, and the sides or shoulders 2", which form the ways 3, are also parallel. The cutter-shank 4' and its bearing-shoulders 4² are straight—that is to say, the sides or edges thereof are parallel and fit the ways 3.

5 is a cross, 5' the stem of the cross, and 6 the spring which actuates the cross. The parts 5 5' constitute spring-actuated means for actuating the cutters to expand the same.

7 is a block forming a seat for the spring 6. One or more dowel-pins 8 may be provided as means for holding the block or spring-seat 7 in place.

9 designates the spreading bearings for holding the cutters 4 apart, and 10 the down-thrust bearings for the cutters. The down-thrust bearings 10' are in the nature of shoulders formed by the edges of the forks at the base of the lugs 2'. The prongs 2 of the body are of substantially one thickness throughout, excepting that they are reduced at their lower ends to form lugs for spreading the cutters 4 apart. The edges of the lugs 2' for the spreading bearings 9 and the prongs terminate abruptly in the shoulders 10' at the base of the lugs 2'. This construction affords the necessary operative structure with maximum strength for minimum weight of body.

11 is a detachable cross-piece in the form of a bolt secured by a nut 12. 13 is an angular socket in the outer face of one of the forks around the bolt-hole 14 in said fork. The nut 12 is conformed to the angular socket, and the bolt 11 is provided with an angular socket 15 in its head to receive a wrench (not shown) for screwing the bolt into the nut.

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The expansion bearing-faces 4³ terminate at their upper ends in rounded corners or bearings 16 to ride more readily over the beveled end faces 17 of the downwardly-projecting lugs 2' to engage said bearings for expanding the cutters.

18 designates recesses in the inner faces of the cutters for engaging the ends of the cross 5.

19 and 20 indicate the usual tension-nut for the spring 6 and the cotter-pin for securing the same.

To assemble the underreamer, the block 7 will first be placed on the stem 5' of the cross 5, and the spring 6 is then adjusted and secured in place by the nut 19 and cotter-pin 20. Then the cutters are placed on the ends, respectively, of the cross 5, which seat in the recesses 18 therefor. Then the parts thus assembled are inserted into the hollow mandrel and brought into the position shown in Fig. 3, whereupon the dowel-pins 8 are inserted and the cross-piece formed of the bolt 11 is then inserted. The nut 12 is placed in its angular socket 13, and the bolt or cross-piece 11 is then screwed home. The underreamer is then in condition for operation.

To use the underreamer, the cutters will be drawn down below the downwardly-projecting lugs 2', thus collapsing the same into the position shown in Fig. 1, whereupon the underreamer will be inserted into the pipe or casing in the usual manner and allowed to descend. When it has passed through the shoe, as shown in Fig. 3, the spring operates in the usual manner to draw the cross 5 up, thus bringing the cutters into the expanded position shown in Fig. 3. The rounded shoulders 16 ride readily over the beveled faces 17, and the upper ends of the cutters seat against the downthrust bearings 10, and the bearing-shoulders 4² of the cutters engage the ways 3 of the fork prongs or members 2, thereby being solidly held during the operation of underreaming. The spreading bearings 9 of the lugs 2' engage the expansion bearing-faces 4³ of the cutters at the same time, so that the tool is practically a unit during the operation of underreaming.

30 designates the usual shoulders on the cutters for drawing the same in when the tool is removed through the pipe or casing 40.

It is advisable that the lower ends of the forks should not form downthrust bearings for the cutters, as there would otherwise be a tendency of crystallization of said forks, which is avoided by making the downthrust bearings at 10 only.

The cross-piece 11 serves as a brace for the prongs of the fork and prevents accidental removal of the cutters and T or cross 5.

It is to be noted that by the construction shown the cutters are quickly expanded at the initial upward movement of the same

after escaping the shoe of the casing 40, and that immediately thereafter the cutters are solidly held in the straight and parallel ways 3, and that when the cutters are fully drawn up they seat on the downthrust bearings 10 and the spreading bearings 9, while the shanks are rigidly held throughout their length. Said spreading bearings are on the lugs 2', which constitute wedges for wedging the cutters apart, and said bearings are at the sides of the lower ends of the body, thus engaging the outer edges of the cutters to hold the cutters apart and leaving an open space between the middle portions of the cutters for a greater distance upward from the lower ends of the cutters than would be the case were the cutters held apart by any intermediate portion between the lugs.

I term the cutters "shouldered cutters," for the reason that the rounded corners 16, which extend away from the shank at right angles thereto, are in the nature of shoulders, the inner faces 4³ of which engage the spreading faces 9 of the side lugs 2' to brace the cutters and hold them apart.

What I claim is—

1. An underreamer-body terminating in prongs having projecting lugs at their lower ends with spreading bearings 9 for holding the cutters apart.

2. An underreamer-body terminating in prongs and provided with upper and lower bearings for the cutters, said prongs having projecting lugs, the edges of which form lower bearings for holding the cutters apart, and the ends of said lugs having beveled end faces.

3. An underreamer-body terminating in prongs the inner faces of which are provided with straight parallel ways, the ends of said prongs terminating in lugs below said ways to spread and hold the cutters apart.

4. An underreamer-body terminating in prongs forming a fork, said prongs having shoulders on their inner faces to form ways for the cutters.

5. A hollow underreamer-body terminating in prongs forming a fork having shoulders on the inner faces to form ways for the cutters, cutters in said ways, a cross in said hollow body for operating said cutters, a spring for operating the cross, a block in the body to form a seat for said spring, and one or more dowel-pins securing the block in place.

6. A hollow underreamer-body, cutters, a cross inside the hollow body for operating said cutters, a spring for operating said cross, a block in said body forming a seat for said spring, and one or more dowel-pins for holding the block in place, said block and pins being located entirely above the head of the cross.

7. A hollow underreamer-body terminating in prongs forming a fork and provided with ways and downthrust bearings for cut-

- ters, cutters in said ways engaging said bearings, a cross for operating said cutters, a spring for actuating said cross, a block forming a guide for the stem of the cross and a seat for the cross-actuating spring, its lower end terminating above the head of the cross and projecting below the downthrust bearings to hold the upper ends of the cutters apart, and means for holding the block in the reamer-body.
8. A hollow underreamer-body terminating in prongs forming a fork, said prongs having shoulders on their inner faces to form ways, cutters in said ways, means for operating the cutters, and a detachable cross-piece connecting the ends of the fork.
9. An underreamer-body terminating in prongs forming a fork and provided with shoulders on the inner faces of the prongs which form cutter-ways and terminate in downwardly-projecting lugs, and cutters mounted between the prongs of said fork and having shoulders inside the fork and faces to bear on the projecting lugs.
10. An underreamer-body terminating in prongs having projecting lugs at their lower ends to hold the cutters apart.
11. An underreamer-body terminating in prongs forming a fork having beveled faces at the ends of its prongs, cutters having shoulders to ride over said beveled faces, and means for suspending said cutters in said body.
12. An underreamer-body terminating in prongs forming a fork, the ends of said prongs being provided with lugs to spread the cutters apart.
13. An under-reamer-body terminating in prongs forming a fork, said prongs having shoulders on the inner faces to form ways for the cutters, and said prongs terminating in lugs to act, as spreaders for the cutters.
14. A hollow underreamer-body terminating in prongs forming a fork, said prongs terminating in lugs for spreading the cutters, said lugs having beveled ends to engage bearings on cutters to expand cutters.
15. An underreamer-body terminating in prongs forming a fork, said prongs terminating in lugs or projections, said lugs having beveled faces or bearings to expand the cutters, and also faces or bearings for the cutters to rest on after they have expanded to a normal position for reaming.
16. An underreamer-cutter having two shoulders and a bearing-face on the inner side of each of the two shoulders of the cutter.
17. An underreamer-cutter having a shank and a shoulder on either side of the shank of the cutter, each of said shoulders projecting at right angles to the shank of the cutter and having a bearing-face on its inner side.
18. An underreamer having a body terminating in a fork, and cutters suspended between the prongs of the fork, the ends of said prongs constituting wedges to wedge between the cutters.
19. An underreamer comprising a body terminating in two prongs, and cutters each having two shoulders and a bearing-face on the inner side of each of the two shoulders to engage said prongs.
20. An underreamer comprising a body terminating in prongs the inner faces of which are provided with straight parallel ways, and cutters having straight shanks fitting said ways, the ends of said prongs terminating in lugs below said ways to spread and hold the cutters apart.
- In testimony whereof I have hereunto set my hand at Bakersfield, California, this 20th day of November, 1905.
- ELIHU C. WILSON.
- In presence of—
H. I. TUPMAN,
T. E. KLOPSTEIN.

[Endorsed]: 715. U. S. District Court, Southern District of California, Southern Division. Wilson vs. Union Tool Co. In Equity, A-4. Complainant's Exhibit Wilson Patent. Los Angeles, Cal., March 24, 1914. I. Benjamin, Notary Public. [819]

Defendant's Exhibit Double Patent No. 2—Letters Patent Issued to E. Double for Underreamer.

No. 748,054

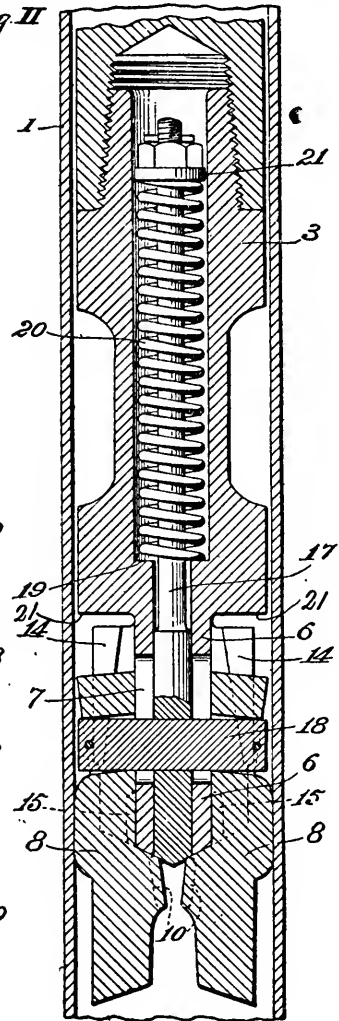
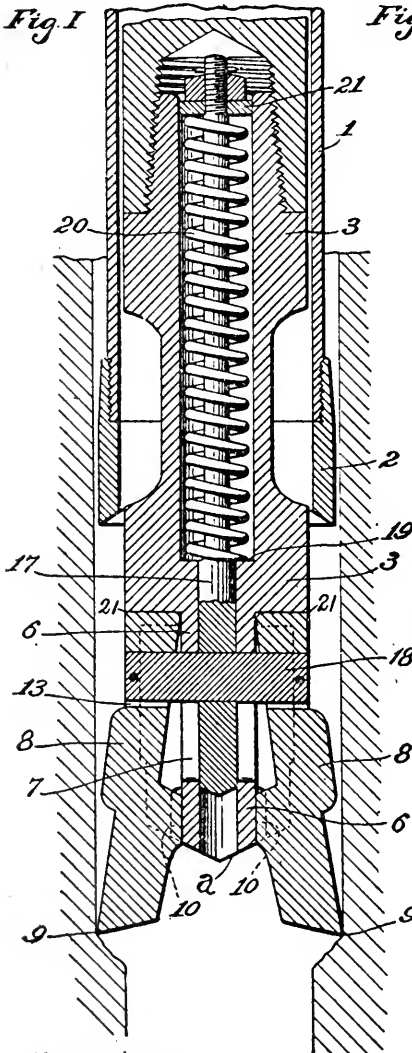
PATENTED DEC. 29, 1903

E. DOUBLE.
UNDERREAMER.

APPLICATION FILED OCT. 13, 1902.

NO MODEL.

2 SHEETS—SHEET 1.



Witnesses
 C. C. Holly
 G. P. Hackley

Inventor
 Edward Double
 G. T. Townsend, Secy.
 by & atty.

No. 748,054.

PATENTED DEC. 29, 1903.

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UNDERREAMER.

APPLICATION FILED OCT. 13, 1902

NO MODEL.

2 SHEETS-SHEET 1.

Fig. III

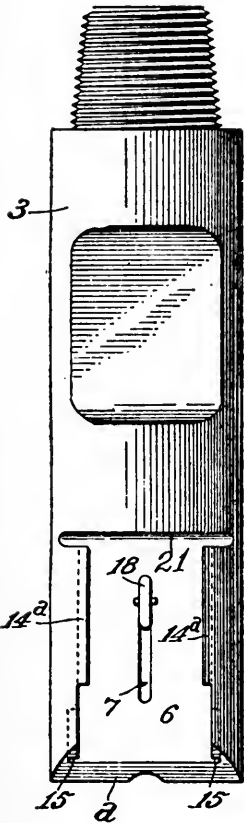


Fig. IV

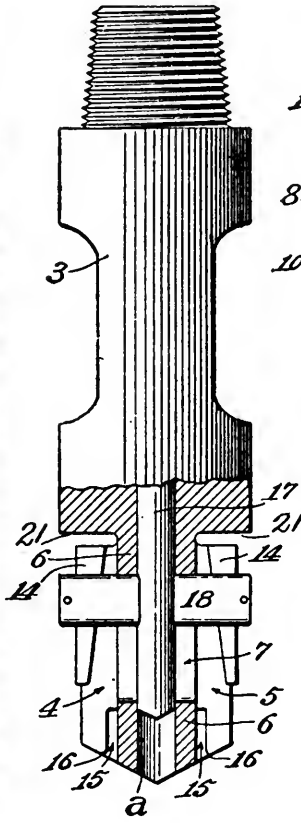


Fig. V

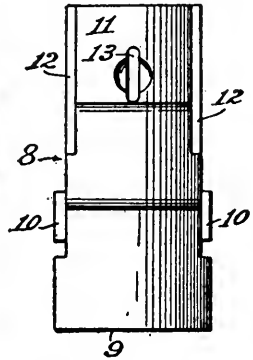
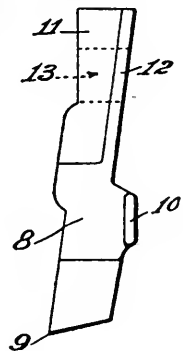


Fig. VI



Witnesses
 C. C. Holly
 G. T. Hackley

Inventor
 Edward Double
 by Townsend Bros
 his attys

Patented December 29, 1903

No. 748,054.

UNITED STATES PATENT OFFICE.

EDWARD DOUBLE, OF LOS ANGELES, CALIFORNIA.

UNDERREAMER.

Specification forming part of Letters Patent No. 748,054, dated December 29, 1903.

Application filed October 13, 1902. Serial No. 127,171. (No model.)

To all whom it may concern:

Be it known that I, EDWARD DOUBLE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Underreamers, of which the following is a specification.

This invention relates to underreamers, and particularly to that class of underreamers described in my application filed October 26, 1901, Serial No. 80,144, and has for its object the further improvement of such underreamers, and particularly the minimizing the liability of the slips or reaming-bits breaking, due to the localization of the strain thereon upon weakened portions.

In operating underreamers considerable difficulty has been experienced, caused by the slips breaking. This was due primarily to the manner in which the slips were attached to the mandrel, the usual construction being to attach the slips by means of a key connected to their upper ends. The slips were usually slotted at their upper ends to receive the key, and therefore were weak at this point and very apt to break, inasmuch as this weak point was situated at the end farthest away from their cutting edges. The strains undergone by the slips were such as to tend to spread the slips apart and owing to the great leverage produced by the length of the slip between its weak portion where it was supported and its cutting edge were frequently broken.

Another object of my invention is to provide for strengthening the slips at a point as near their cutting edges as possible, so as to relieve the weak portion of as much stress as possible.

A further object is to combine such strengthening means with such mandrel and reaming bits or slips in simple, cheap, and durable manner, avoiding increase in number of parts and the production of devices requiring close fit or adjustment.

To these ends my invention consists in the constructions and combinations of parts hereinafter described, and particularly pointed out in the claims.

Referring to the drawings, Figure I is a longitudinal sectional view showing an underreamer embracing my invention in oper-

ative position in a well-casing, the well-casing being shown in place. Fig. II is a view similar to Fig. I, showing the cutting ends of the slips drawn together and the underreamer entirely within the well-casing. Fig. III is a side elevation of the mandrel. Fig. IV is a view looking at the side of Fig. III, the lower part of the mandrel being in section. Fig. V is a front elevation of the slip. Fig. VI is a side elevation of the slip.

1 designates the ordinary well-casing, to the bottom of which is screwed a shoe 2.

3 is a hollow arbor provided at its lower end with opposite recesses 4 and 5, which are separated by a web 6, which is provided with a central elongated slot 7. The lower end of the arbor is formed with a blunt tapering point *a*. The tapering under faces of this point *a* form the spreading-surfaces for tilting the bits, and the straight parallel sides thereof form the surfaces against which the bits rest when in position for underreaming.

8 designates slips which lie in the opposite recesses 4 and 5. The bottom of each slip is inclined to form a cutting edge 9. Each slip is provided with a pair of elongated lugs 10, which lie as near the cutting edge as possible and extend longitudinally of the slip and project laterally from the sides thereof, as shown best in Fig. V. The opposite sides of the upper end of each slip is provided with a ridge 12, which extends substantially longitudinally of the slip, but at an angle to the line of the lug 10. Each slip is also provided at its upper end with a lateral slot 13, which slot, as shown, is somewhat larger than the end of the key 18 to permit the slip or bit to tilt thereon, as illustrated in the drawings.

Referring to Fig. III, 14 designates a pair of opposite elongated lugs. The inner face of each lug converges at its upper end toward the web 6. A pair of lugs 14^a is provided on the opposite side of the mandrel. The lower end of the mandrel is provided on each side of the web 6 with a pair of opposite grooves 15, which lie close to and parallel with the web 6, the lower outside corner of each groove 15 being slightly rounded, as at 16. The grooves extend up the mandrel a short distance only. 17 is rod which extends through the center of the mandrel and having a pointed lower end. The rod is provided at a short

distance from its lower end with a slot, through which a key 18 passes. The hollow mandrel 3 is provided with an internal shoulder 19. 20 is a coil-spring which lies within the hollow mandrel, encircling the rod 17 and its lower end resting upon the shoulder 19. The upper end of the rod is provided with a washer and nut 21, which confines the upper end of the spring. The slips or reaming-bits lie in the opposite recesses 4 and 5, and the key 18 passes through the perforations 13 in each slip. The function of the spring 20 is to hold the rod 17 in a raised position, as shown in Fig. I, with the slips tilted into operative position, their upper ends resting against the upper faces of the recesses 4 and 5. When the slips are in this position, the lugs 10 lie within the grooves 15, and the slips are thus firmly held and prevented from spreading outwardly and the strain upon the weaker part of the slips reduced. The upper portions or ends of the slips or bits when in position for underreaming bear against the shoulders or abutments 21 of the arbor or mandrel 3 above the recesses 4 and 5. These abutments 21 have sufficient stock to withstand the severe strain thereon when the tool is in use in underreaming.

When it is desired to insert the underreamer 30 into the well-casing, the rod 17 may be depressed, thereby compressing the spring 20 and dropping the slips over the lower end of the web 6, which allows the slips to be tilted, so that their cutting edges are drawn together a sufficient distance to allow the underreamer to be inserted into the pipe. When the slips are in the position shown in Fig. I, the ridges 12 of the slips contact with the inclined faces of the lugs 14, which serves to hold the upper end of the slips from dislodgement and also relieving the key from any appreciable strain, as the stresses are borne almost entirely by the lugs 10 and ridges 12 and also, of course, by the top end of each slip, which bears against the upper faces of each recess 4 and 5.

The lower end of each groove 15 is slightly rounded to allow the lugs 10 to readily enter without danger of catching upon the corner. For the same reason each end of the lug 10 is also preferably rounded, as shown in Fig. VI.

It should be understood that I contemplate making such changes and alterations in the specific construction of my invention as would be included within the scope of the claims.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. In an underreamer, the combination, with a hollow mandrel, of a spring-actuated rod slidably mounted therein and provided with a key or head at its lower end, tilting slips freely and detachably connected with said key or head, and means bracing said slips at the lower end of the mandrel.

2. In an underreamer, the combination, with a hollow mandrel, of a spring-actuated rod slidably mounted therein and provided

with a key or head, slips or bits tiltingly carried thereby, means for spreading said bits as the same are drawn up by said rod, and means bracing said slips at their lower ends. 70

3. In an underreamer, the combination, with a mandrel provided with a central bore, a central depending bar having spreading-faces at its lower end, and shoulders against which the upper ends of the slips bear when in position for underreaming, of a spring-actuated rod slidably mounted in said bore and provided with a key or head, reaming-slips tiltingly carried thereby, and means bracing said slips at their lower ends. 75 80

4. In an underreamer, in combination, a hollow mandrel, provided with a slotted extension, a spring-actuated slip-operating rod provided with a key, tilt slips or bits provided with key-seats to be engaged by said pivot-key, said key-seats being somewhat larger than the key to allow the slips to tilt, said slips provided with inwardly-projecting shoulders, said slotted extension provided with surfaces adapted to tilt said slips and hold the same in expanded position, and means bracing said slips at their lower ends. 85 90

5. In an underreamer, in combination, a hollow mandrel with a hollow slotted extension, said extension having opposite parallel bearing-faces, a slip-carrying rod in said mandrel, reaming-slips, said slips being provided with key-seats, a key or head on said rod, each end of said head or key lying in a key-seat, and the key-seat in said slip being somewhat larger than the key to allow the slips to partake of a tilting action, and means bracing said slips at their lower ends. 95 100

6. In an underreamer, in combination, a mandrel furnished with a hollow slotted extension, the lower end of which slopes upward at the edges, tilt-slips slidingly connected with the mandrel and furnished on their inner faces with projections, the faces of which slide upon the extension of the mandrel, a spring-actuated rod slidably arranged in said mandrel, means connecting the slips with the rod, and means for bracing the slips at their lower ends. 105 110

7. In an underreamer, in combination, a mandrel, provided with a centrally-depending transversely-slotted bar or web and with spreading-faces at its lower end, reaming-slips, means for bracing the slips at their lower ends in said slotted extension, and automatic means for tiltingly carrying and supporting said slips independently of each other adapted to normally hold said slips in position for underreaming. 115 120

8. In an underreamer, in combination, a hollow mandrel, provided with a slotted extension, a spring-actuated rod slidably mounted therein, a key or head provided on said rod, expandible reaming-slips tiltingly carried upon and operated by said key, spreading-faces on said mandrel against which said bits operate, and means preventing the 125 130

lower ends of the bits tilting outward from their operative position after such bits have been drawn up by said rod.

9. In an underreamer, in combination, a hollow mandrel provided with a slotted extension, a spring-actuated rod slidably mounted therein and provided with a slip carrying and operating key or head, expansible reaming-bits tiltingly carried thereby and provided with inwardly-projecting shoulders, and mandrel provided with spreading-faces, and means on said slips cooperating with means on said mandrel, when said slips are in position for underreaming, to hold the lower ends of said slips from tilting.

10. In an underreamer, in combination, a hollow mandrel provided with a slotted extension, a spring-actuated rod slidably mounted therein and provided with a slip carrying and operating key or head, expansible reaming-bits tiltingly carried thereby and provided with inwardly-projecting shoulders, said mandrel provided with spreading-faces, the lower end of said mandrel provided with elongated grooves, and said slips provided with elongated lugs projecting into said grooves.

11. In an underreamer, in combination, a hollow mandrel provided with a slotted extension, a spring-actuated rod slidably mounted therein and provided with a slip carrying and operating key or head, expansible reaming-bits carried thereby and provided with inwardly-projecting shoulders, said mandrel provided with spreading-faces, said mandrel provided at its lower end with a pair of opposite recesses, a pair of elongated lugs on the lower end of said mandrel projecting over a portion of each side of the recess, the extreme lower end of said mandrel being provided with opposite pairs of grooves, each of said slips provided with ridges which lie against said lugs, and a pair of lugs on each slip projecting into said grooves.

12. In an underreamer, in combination, a hollow mandrel provided with a transversely-slotted extension, a spring-actuated rod slidably mounted therein, a key or head provided on said rod playing in said transverse slot, expansible reaming-slips tiltingly-carried upon and operated by said key, spreading-faces on said mandrel against which said bits operate, said mandrel provided at its lower end with a pair of oppositely-positioned open-ended grooves, and each of said slips provided with lugs projecting into said grooves.

13. In an underreamer, the combination, with a hollow mandrel provided with spreading-surfaces, of a spring-actuated slip-carrying rod slidably mounted therein and provided with a slip-carrying key or head, slips pivotally mounted upon and carried by said key or head and having portions adapted to contact with said spreading-surfaces, and means bracing said slips at their lower ends.

14. In an underreamer, the combination, with a hollow mandrel provided at its lower

end with spreading-surfaces and provided with abutments, of a spring-actuated slip-carrying rod slidably mounted therein and provided with a slip-carrying key or head, slips pivotally mounted upon and carried by said key or head, said slips provided with portions adapted to contact with said spreading-surfaces and with portions to contact with said abutments when the slips are in position for underreaming and means for bracing the slips at their lower ends.

15. In an underreamer, the combination, with a hollow mandrel provided at its end with spreading-surfaces and provided with abutments and with elongated lugs, and a slotted extension, of a spring-actuated rod slidably mounted therein, a key or head on said rod, slips or bits tiltingly mounted upon and carried by said key or head, said slips provided with portions adapted to contact with said spreading-surfaces and with portions to contact with said abutments when the slips are in position for underreaming and with portions adapted to contact with said elongated lugs, and means for bracing said slips and preventing the same tilting outward when in position for underreaming.

16. In an underreamer, the combination, with a hollow mandrel provided with a slotted extension, said mandrel provided with elongated lugs and spreading-surfaces, a spring-operated member slidably mounted in said mandrel, a key or head for said rod, reaming-bits tiltingly mounted on said key or head and carried thereby, said bits provided with portions adapted to contact with said lugs, and means for bracing said slips and preventing the same tilting outward when in position for underreaming.

17. In an underreamer, in combination, a mandrel furnished with shoulders or abutments and with a slotted extension beyond said shoulders or abutments and with dovetail ways on opposite sides of said extension, dovetail tilt slips or bits for said ways furnished with transverse perforations or seats; a spring-actuated rod sliding in said mandrel and furnished with a key or head, the ends of which project into said perforations or seats, said slotted extension provided with grooves and said bits or slips provided with lugs or projections adapted to engage in said groove when in position for underreaming thereby bracing said bits or slips against lateral strain, and means at the lower end of said slotted extension for spreading the bits or slips.

18. In an underreamer, dovetail slips furnished with key-seats respectively on their inner faces; a rod furnished with a key-seat; a key for said key-seats; a mandrel in which the rod plays constructed with a slotted extension and tapering dovetail slipways which open laterally just above the lower end of the bottom of the slot in the extension, to allow the key to be inserted in the slot and key-seats only when the key-seats are flush with the lower end of the slot, said slotted exten-

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4
5
10
15
20
sion provided with grooves, and said slips provided with lugs or projections adapted to engage in said grooves when in position for underreaming thereby bracing said bits or slips against lateral strain.

19. In an underreamer, in combination, a hollow mandrel provided with abutments and with a slotted extension projecting below said abutments and provided with opposite recesses, a spring-actuated rod slidably mounted in said mandrel and provided with bit or slip carrying means, reaming bits or slips tiltingly carried by said means and adapted to bear against said abutments, each of said bits provided with ridges adapted to work in respective recesses, said slotted extension provided with bit or slip spreading means and with grooves or slots, said bits or slips provided with portions adapted to engage in said grooves or slots when the bits are in position for underreaming.

20. In an underreamer, in combination, a

hollow mandrel provided with a slotted extension having opposite recesses, a spring-actuated rod slidably mounted in said mandrel and provided with bit or slip carrying means, reaming bits or slips tiltingly carried by said means, each of said bits or slips provided with ridges adapted to work in respective recesses, said slotted extension provided at its end with spreading-surfaces and with grooves or slots, said bits or slips provided with lugs or projections adapted to engage in said grooves or slots when the bits are in position for underreaming

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Los Angeles, in the county of Los Angeles and State of California, this 4th day of October, 1902.

EDWARD DOUBLE.

Witnesses:

JAMES R. TOWNSEND,
A. E. WROTH.

[Endorsed]: Double 748,054. U. S. Dist. Court, Southern Dist. of Cal., Southern Division. Wilson v. Union Tool Co. In Equity, A-4. Defendant's Exhibit Double Patent No. 2. July 23, 1915. I. Benjamin, Notary Public. Double No. 2. For Mr. Lyon. [820].

Defendant's Exhibit Double Patent No. 3—Letters Patent Issued to E. Double for Underreamer.

No. 796,197.

PATENTED AUG. 1, 1905.

E. DOUBLE.
UNDERREAMER.

APPLICATION FILED DEC. 18, 1902.

3 SHEETS—SHEET 1

Fig. I

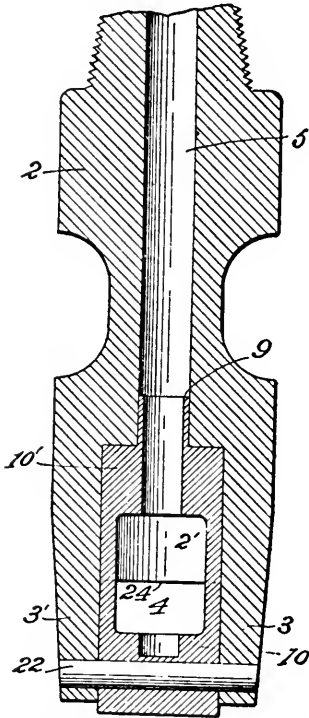


Fig. II

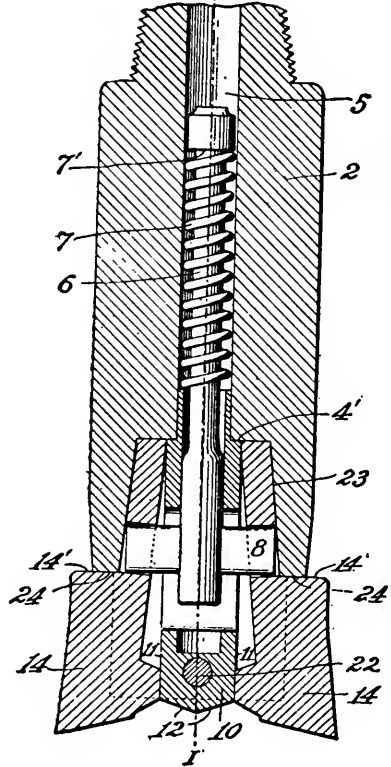
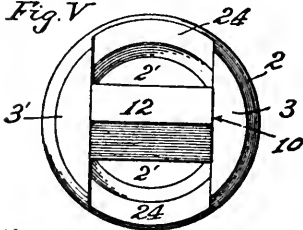


Fig. V



Witnesses
 G. B. Herby
 Frederick D. Jones

Inventor
 Edward Double
 J. Townsend
 his atty.

No. 796,197.

PATENTED AUG. 1, 1905.

E. DOUBLE.

UNDERREAMER.

APPLICATION FILED DEC. 18, 1902.

3 SHEETS—SHEET 3.

Fig. III

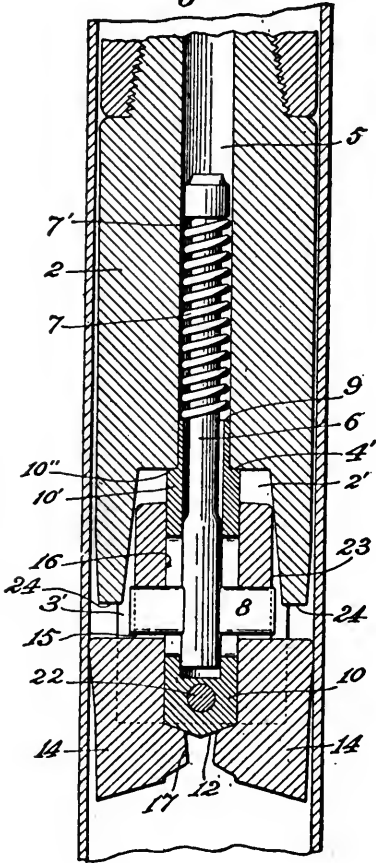


Fig. IV

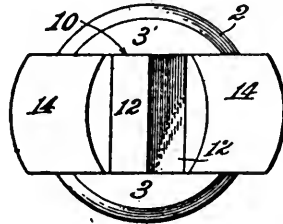
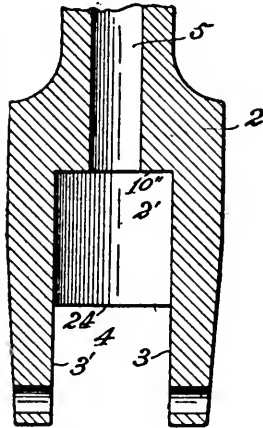


Fig. VI



Witnesses
 C. B. Kelly.
 Frederick J. Ryan

Inventor
 Edward Double
 by *Townsend*
 his Atty

UNITED STATES PATENT OFFICE.

EDWARD DOUBLE, OF LOS ANGELES, CALIFORNIA.

UNDERREAMER.

796,197.

Specification of Letters Patent.

Patented Aug. 1, 1905.

Application filed December 18, 1902. Serial No. 135,792.

To all whom it may concern:

Be it known that I, EDWARD DOUBLE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles, and State of California, have invented certain new and useful Improvements in Underreamers, of which the following is a specification.

This invention relates to means for reaming out or increasing the bore of oil or Artesian well holes, and particularly to a device adapted to be passed through the well-casing and ream out or enlarge the bore of the well below the casing, so that the casing may be readily lowered.

The object of the invention is to provide a device of this class which shall be extremely simple and cheap in construction and positive and efficient in operation.

The invention consists generally in an underreamer comprising in combination a mandrel or body portion, said portion provided with a slotted extension having open sides and with a central bore, a removable cap or end block forming a central bar or bridge extending across the center of said slotted portion, said bar or bridge provided with lower faces downwardly and inwardly converging and forming a spreading portion, an automatic spring-actuated, slip-operating rod slidably mounted in said center bore of the mandrel and provided with a key or head, and reaming-bits adapted to extend into the slotted extension through the open sides thereof and provided with key-seats into which the ends of said keys or head are adapted to engage, said key-seats being somewhat larger than the ends of the key or head to permit the bits or slips to tilt or swing thereon and said bits provided with shoulders or portions adapted to extend inwardly to contact with the converging face of said bar or bridge.

The invention consists, further, in a mandrel having a center bore, a central socket or chamber, and an open-ended open-sided hollow extension through which portions of the bits extend up into said central socket or chamber and bear against the inner walls thereof; further, in utilizing the wall portions forming the upper ends of said side slot as abutting surfaces against which shoulders on the bits are adapted to bear.

The invention consists, further, in the constructions and combinations of parts herein-after described, and particularly pointed out in the claims and will be more readily understood by reference to the accompanying draw-

ings, forming part of this specification, in which—

Figure I is a longitudinal sectional view of an underreamer embodying my invention, taken on line I I of Fig. II, the reaming-bits having been removed, the end block or bridge being shown in place. Fig. II is a longitudinal sectional view thereof as the same appears when ready for underreaming. Fig. III is a similar view as the same appears as the tool passes through the casing. Fig. IV is an under side view showing the bits in the position of Fig. II. Fig. V is an under side view, the bits having been removed. Fig. VI is a partial longitudinal sectional view similar to Fig. I, showing the end block or bridge removed.

As shown in the drawings, 2 represents the mandrel or body portion, which is provided with a central socket or chamber 2' and with a slotted extension having the walls 3 3' and open-sided slot 4. The body portion 2 is also provided with the central bore 5, in which the slip operating and carrying rod 6 is adapted to slide. This rod is encircled by a coiled spring 7, one end of which bears against the shoulder of spring-seat 7' on the rod 6, the other end bearing against the upper end of the end block 10. It is thus seen that the rod 6 is normally held in a raised position. The rod 6 is provided with a key or head 8, either integral or detachable, as desired. The end of the slot 4 is closed by a cap or end block 10, forming a central bar or bridge, having parallel sides 11 and downwardly and inwardly converging or tapered faces 12, 12. As shown, this end block 10 is provided with the hollow upward extension 10', extending up within the central bore 4, the shoulder 4' abutting against the shoulder 10". The portion 10 is cut away at its center in a long slot, thus forming an unobstructed open-sided chamber in which the key or head 8 and the bits play. This end block 10 is secured on the end of the walls 3 3' by a pin or key 22.

14 14 represent the reaming bits or tools. The bits are each provided with a key seat or socket 15, an inner inclined face 16, and an inward projection, surface, or shoulder 17. The key seats or socket 15 are somewhat larger than the ends of the key or head 8.

The operation is as follows: The device being in the position shown in Fig. III, as passing through the casing, as soon as the bits pass out the end of the casing the rod 6 is forced upward by the tension of the spring 7

and the reaming-bits drawn upward. The shoulders or portions 17 of the bits ride up the inclined faces of the spreading bar or end block 10, the key seats or sockets 15 permitting the bits to tilt on the key or head 8. The shoulders or surfaces 17 being brought up onto the straight sides of the bar or end block 10, the bits are held expanded. When it is desired to withdraw the underreamer from the well-casing, the rod 6 being thereby drawn surfaces of the bits strike against the shoe of the well-sacing, the rod 6 being thereby drawn down against the tension of the spring. As soon as the shoulders or surfaces 17 pass downward far enough on the sides 11 of the central bar or bridge 10 to reach the tapered surfaces 12 the bits will tilt until they are again in the position shown in Fig. III, when they pass freely through the casing.

I make the key seats or sockets 16 somewhat larger than the ends of the key or head 8, so that the lower ends of the bits or slips may tilt away from the bar or bridge 10 in expanding or tilt toward such bar or bridge when the shoulders or surfaces 17 pass downward far enough to slide inward on the converging spreading faces 12 of the bar 10.

It will be noted that the upper ends of the bits come within the socket or chamber 2', and when in position for reaming the outer faces 23 of the bits engage the inner surfaces of the chamber-walls, and the shoulders 14' of the bits or slips contact with the portions 24 of the mandrel. The portions 24 thus form abutting surfaces for the shoulders 14' of the reaming-bits. It will also be noted that the sides of the bits bear against the side walls of the slot 4, the walls forming guides preventing lateral play of the bits.

Having described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In an underreamer, in combination, a mandrel provided with a central bore and with an open-sided slotted extension, a removable end block or bridge adapted to be secured to the ends of said slotted extension, and having downwardly and inwardly converging faces and side bearing-surfaces, a spring-actuated rod slidably mounted in said central bore, the lower end of said rod provided with a key or head, and reaming-bits having key-seats somewhat larger than said key or head into which said key or head is adapted to extend, and said bits provided with tilting surfaces or shoulders adapted to contact with said converging faces on said central bar or bridge and to bear on said side bearing-surfaces when the bits are expanded.

2. In an underreamer, the combination, a mandrel provided with a central bore and with an open-sided slotted extension, an end block or bridge portion and forming a central bar or bridge having spreading faces on its under side and bearing-surfaces on its sides, a spring-

actuated slip-operating rod slidably mounted in said central bore, and provided with a bit-engaging key or head, and reaming-bits provided with key-seats somewhat larger than said key or head into which said key or head is adapted to extend, said bits provided with tilting surfaces or shoulders adapted to move against said spreading faces and bear on said bearing-surfaces of said central bar when expanded and said bits provided with portions above said bearing-surfaces adapted to permit said bits to tilt inward when said rod is drawn down, so that said bits may tilt inward.

3. In an underreamer, in combination, a mandrel provided with a central bore and with an open-sided slotted extension, a removable end or bridge block secured on the ends of said slotted extension and forming a central bar or bridge having downwardly and inwardly converging faces and side bearing-surfaces, a spring-actuated rod slidably mounted in said central bore, the lower end of said rod provided with a key or head, and reaming-bits having key-seats somewhat larger than said key or head into which said key or head is adapted to extend, and said bits provided with tilting surfaces or shoulders adapted to contact with said converging faces on said central bar or bridge and to bear on said side bearing-surface when the bits are expanded, the width of said slips adapting the lateral faces thereof to bear against the side walls of said slotted extension thereby preventing lateral movement of the slips.

4. In an underreamer, the combination, a mandrel provided with a central bore, and with an open-sided slotted extension, a removable end block or bridge secured on said slotted extension, said end block or bridge having spreading faces on its under side and bearing-surfaces on its sides, a spring-actuated slip operating rod slidably mounted in said central bore, and provided with a bit-engaging key or head, and reaming-bits provided with key-seats somewhat larger than said key or head into which said key or head is adapted to extend, said bits provided with tilting surfaces or shoulders adapted to move against said spreading faces and bear on said bearing-surfaces of said central bar when expanded, and said bits provided with portions above said bearing-surfaces adapted to permit said bits to tilt inward when said rod is drawn down, the width of said slips adapting the lateral faces thereof to bear against the side walls of said slotted extension thereby preventing lateral movement of the slips.

5. In an underreamer, the combination with a slotted mandrel provided with a downwardly-projecting open-ended slotted or chambered extension, an end portion detachably secured thereon and provided with a central bar or bridge extending over the center of said slot and provided with spreading faces, a spring-actuated rod slidably arranged in

said slotted mandrel and having its lower end extending into the slot or chamber of said extension and provided with a key or head, and reaming-bits provided with key-seats or sockets somewhat larger than the ends of said key into which said key extends, said bits provided with portions adapted to operate against said faces, and with surfaces to bear against the well-casing to tilt said bits inward and with side faces adapted to slide against the side walls of said slotted or chambered portion and prevent lateral play of the bits.

6. In an underreamer, in combination, a mandrel provided with a central bore, a chamber or socket and an open-sided slotted extension, an end block secured on said slotted extension, said end block provided with a central bar or bridge extending over the center of said slot and provided on its under side with spreading faces, a spring-actuated rod slidably arranged in said mandrel, and provided with a bit-operating key or head, and reaming bits or slips provided with cutting edges and with key seats or sockets somewhat larger than the ends of said key or head, said bits provided with portions adapted to operate against said faces, and with surfaces to bear against the well-casing to tilt said bits inward.

7. In an underreamer, the combination, with a hollow mandrel, provided with a socket or chamber and with downwardly-extending walls having an open-sided slot therebetween, an end block on the ends of said walls and forming a bridge therebetween, said bridge portion provided with a wedge-shaped under surface, a spring-actuated bit supporting and operating rod slidably arranged in said hollow mandrel, and tilting bits freely, detachably and tiltingly supported on said rod and operated thereby, said bits provided with surfaces adapted to contact with said wedge-shaped under surface of said bridge, and with portions to contact with the interior of the casing when the tool is drawn up into the casing.

8. In an underreamer, the combination, of a mandrel, provided with a central bore in its upper portion and an open-ended socket or chamber in its lower portion, the lower portion of the walls of said chamber having open-ended parallel side slots, an end block keyed to the lower ends of said mandrel and forming a bridge across the ends of said slots, said block provided with spreading faces, a spring-actuated rod slidably arranged in said central bore, means on said rod for supporting and operating the bits, and bits having outer surfaces bearing against the interior of said socket or chamber, portions adapted to contact with the interior of the casing as the tool passes through the casing, and portions adapted to slide upon said spreading surfaces.

9. In an underreamer, the combination, of a mandrel provided with a central bore in its

upper portion and an open-ended socket or chamber in its lower portion, the lower portion of the walls of said chamber having open-ended parallel side slots, the walls of the upper ends of said slots forming abutting surfaces, an end block keyed to the lower ends of said mandrel and forming a bridge across the open ends of said slots, said block provided with spreading faces, a spring-actuated rod slidably arranged in said central bore, means on said rod for supporting and operating the bits, and bits having outer surfaces bearing against the interior of said socket or chamber shoulders adapted to contact with said abutting surfaces when the bits are expanded, portions adapted to contact with the interior of the casing as the tool passes through the casing, and portions adapted to slide upon said spreading faces.

10. In an underreamer, the combination, of a mandrel, provided with a central bore, a central socket or chamber and an open-sided slotted hollow extension, having a bridge across its end, a spring-actuated slip-operating rod slidably mounted in said central bore and provided with a key or head and reaming-bits carried by said rod, portions of which bits extending up into said socket or chamber and bearing against the inner surface thereof, and said bits provided with portions adapted to operate against said bridge to expand the bits.

11. In an underreamer, the combination, of a mandrel, provided with a central bore, a central socket or chamber and an open-sided or slotted hollow extension, having a bridge across its ends, the upper end walls of the side slots forming abutting surfaces, a spring-actuated slip-operating rod slidably mounted in said central bore and provided with a key or head, and reaming-bits carried by said rod, portions of which bits extending up into said socket or chamber and bearing against the inner surfaces thereof, and said bits provided with portions adapted to operate against said bridge to expand the bits, and provided with shoulders to contact against said abutting surfaces.

12. In an underreamer, in combination, a hollow mandrel, provided with a slotted extension, a spring-actuated rod slidably arranged therein and provided with a head or key, an end block or bridge keyed to the projecting ends of said slotted extension, said end block provided with under spreading faces and side bearing portions, and reaming-bits carried on said head or key, said bits provided with portions adapted to contact with said spreading faces and said bearing portions and with portions adapted to contact with the interior of the casing as the tool passes there-through.

13. In an underreamer, the combination, of a mandrel provided with a central bore, a central socket or chamber and an open-sided hollow extension, an end or bridge block

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keyed to the projecting ends of said slotted extension and provided with under spreading faces and side-bearing portions, a spring-actuated bit-operating rod slidably mounted in said central bore and provided with a key or head, and reaming-bits carried by said rod, portions of the bits extending up into said socket or chamber and bearing against the inner surface thereof, said bits provided with portions adapted to operate against said under spreading faces to expand the bits and said bits provided with portions adapted to contact with the interior of the casing as the tool passes therethrough.

14. In an underreamer, in combination, a hollow mandrel, provided with a slotted extension, a spring-actuated rod slidably arranged therein and provided with a head or key, an end block or bridge keyed to the projecting ends of said slotted extension, said end block provided with under spreading faces and side bearing portions, and reaming-bits carried on said head or key, said bits provided with portions adapted to contact with said spreading faces and said bearing portions, and means, contacting with the interior of the casing when the tool passes therethrough, holding the bits in contracted position.

15. In an underreamer, in combination, a

mandrel provided with a central bore, a slotted extension, and a central chamber, a spring-actuated rod slidably arranged in said central bore and provided with a key or head, an end block or bridge keyed to the projecting ends of said slotted extension, said end block provided with under spreading faces and side bearing portions, and reaming-bits carried by said head, said bits provided with portions adapted to contact with said spreading faces and bearing portions, with portions adapted to contact with the interior of the casing as the tool passes therethrough, with portions extending up into said socket or chamber and bearing against the inner surface thereof, and with shoulders adapted to bear against abutments on said mandrel when expanded, said abutments formed by the wall of the mandrel connecting the legs or walls of said slotted extension.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Los Angeles, in the county of Los Angeles and State of California, this 12th day of December, 1902.

EDWARD DOUBLE.

Witnesses:

FREDERICK S. LYON,
EDW. L. PAYNE.

[Endorsed]: Double 796,197. U. S. Dist. Court, Southern Dist. of Cal., Southern Division. Wilson v. Union Tool Co. In Equity, A-4. Defendant's Exhibit Double Patent No. 3. July 23, 1915. I. Benjamin, Notary Public. "Double patent No. 3." For Mr. Lyon. [821]

Complainant's Exhibit Jones Patent No. 809,570—
Letters Patent Issued to F. W. Jones for Under-reamer.

No. 809,570.

PATENTED JAN. 9, 1906.

F. W. JONES.
UNDERREAMER.

APPLICATION FILED AUG. 30, 1904.

Fig. 1.

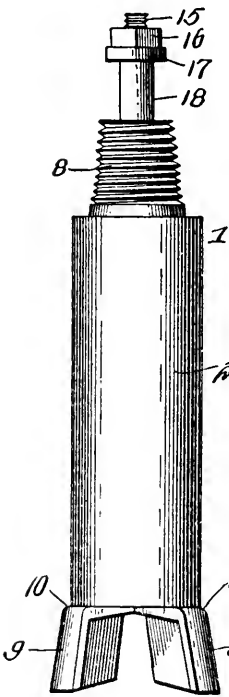


Fig. 2.

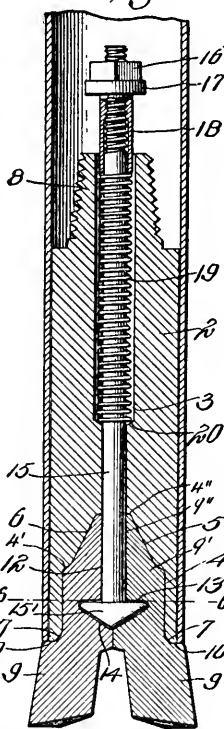


Fig. 3.

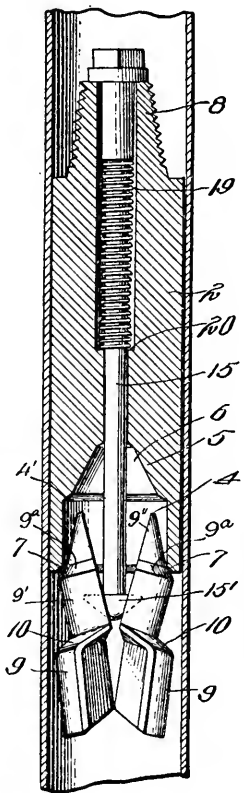


Fig. 4.

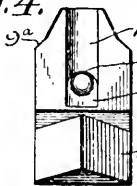


Fig. 5.

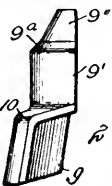
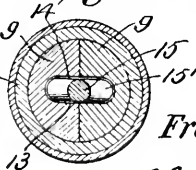


Fig. 6.



Witnesses
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C. F. Girsbauer.

Inventor
Frederick W. Jones
by A. R. Wilson
Attorney

drel. This construction also permits the use of bits so constructed and of such form as to abut against the walls of the chambers of the mandrel and take all the concussion or impact (when the underreamer is in use) off of the spring-actuated rod and the pivot key or head holding the bits, thereby eliminating all danger of breaking such parts.

By making the head 15' of the spring-actuated rod 15 in the form of an arrow-head and providing in the bits or slips 9 sockets or recesses 13, corresponding in form to the wings of the arrow-head, I provide for the tilting action of the slips or bits and for a strong supporting head or pivot 15' without necessitating removal of sufficient material from the bits to weaken the same, and in the manufacture of oil-well tools great strength is essential.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. An underreamer of the class described comprising a centrally-bored mandrel having a cylindrical recess in its lower end, a recess above said cylindrical recess, a beveled shoulder between said upper recess and said cylindrical recess, a rod movable longitudinally in the bore of the mandrel and having a head on its lower end and a pair of cutters recessed on their opposing inner sides to receive the lower portion of said rod and the head of said rod, each of said cutters having a semicylindrical portion of a diameter to fit in the cylindrical recess of the mandrel, a semiconical upper portion to fit in the upper recess of the mandrel, a beveled shoulder to engage the upper beveled shoulder of the mandrel, a lower portion of a diameter exceeding that of the cylindrical recess of the mandrel, a beveled shoulder between the semicylindrical portion and the said portion of enlarged diameter, the said portions of enlarged diameter having their inner opposing sides oppositely beveled to form wedge-shaped openings between them.

2. An underreamer comprising a centrally-bored mandrel having a cylindrical recess in its lower end and a recess above said cylindrical recess, a beveled shoulder or abutment between said recesses, a spring-actuated rod slidable in said central bore, said rod having a head at its lower end, tilting slips tiltingly mounted on said head, said slips provided with cutting edges and with shoulders adapted to contact with said beveled shoulder or abutment.

3. An underreamer comprising in combination a centrally-bored mandrel having a cylindrical recess in its lower end and a second and smaller recess above said cylindrical recess, an inclined or beveled shoulder or abutment being provided between said recesses, a spring-actuated rod slidable in said mandrel, said rod provided with a pivot-head

and underreaming bits or slips tiltingly mounted on said head, said bits provided with underreaming-faces and with shanks adapted to extend up into said recesses, said shanks having reduced upper portions adapted to fit within the upper recess. 70

4. An underreamer comprising a hollow mandrel, a spring-actuated rod slidable therein, said mandrel having at its lower end a cylindrical chamber and an inner and smaller chamber above said cylindrical chamber, an inclined or beveled abutment formed between the adjoining ends of the walls of said chambers, reaming-bits mounted on said rod and provided with surfaces adapted to contact with said inclined shoulder or abutment to tilt said bits. 80

5. An underreamer comprising a mandrel having a recess or chamber in its bottom and an inclined or beveled abutment in the said chamber, a spring-actuated rod slidable in said mandrel, said spring-actuated rod having a head of a form similar to an arrow-heads tilting slips or bits having sockets corresponding to the wings of said arrow-head into which said arrow-head is adapted to fit, said slips or bits provided with shanks adapted to be drawn up into said chamber and provided with inclined shoulders adapted to abut against said beveled or inclined shoulders in said chamber to tilt said slips or bits on said arrow-head as said slips or bits are drawn inward into said chamber. 85 90 95

6. An underreamer comprising a hollow mandrel furnished in its lower end with a chamber provided at an intermediate portion with an inclined or beveled portion or abutment, a spring-actuated rod sliding through said chamber and extending up in said mandrel, two jaws pivoted to said rod respectively furnished at their upper ends with shanks extending above the pivot and into said chamber and furnished at their intermediate portions and above said pivot with inclined shoulders adapted to contact with said inclined abutment in said chamber. 100 105 110

7. An underreamer comprising a hollow mandrel furnished in its lower end with a chamber provided at an intermediate portion with an inclined or beveled portion or abutment, a spring-actuated rod sliding through said chamber and extending up in said mandrel, two jaws pivoted to said rod respectively furnished at their upper ends with shanks extending above the pivot and into said chamber, furnished above said pivot with inclined shoulders adapted to contact with said inclined abutment in said chamber, said shanks of said bits being of sufficient length to abut against the surface of the end wall of said chamber. 115 120 125

8. An underreamer comprising a mandrel provided in its lower end with an inwardly-extending chamber or socket, said chamber provided intermediate its length with an in- 130

clined or beveled abutment, a spring-actuated rod slidably mounted in said mandrel and extending through said socket or chamber up into the mandrel, two slips or bits pivoted to said rod and respectively furnished at their upper ends with shanks extending above the pivotal point to enter the upper end of said socket or chamber, said bits provided above said pivotal point with inclined shoulders adapted to abut against said inclined abutment in said socket or chamber to tilt said bits, said bits also provided with shoulders adapted to abut against the end of said mandrel.

15. 9. An underreamer comprising a centrally-bored mandrel having a cylindrical recess in its lower side and a recess above said cylindrical recess, a shoulder or abutment between said recesses, a spring-actuated rod slidable in said central bore, said rod having a head at its lower end, tilting slips tiltingly mounted on said head, said slips provided with cutting edges and with inclined or beveled shoulders adapted to contact with said shoulder or abutment.

10. An underreamer comprising in combination a mandrel having a cylindrical chamber in its lower end and a tapering chamber above said cylindrical chamber and forming an inward extension thereof, a spring-actuated rod slidably mounted in said mandrel and extending up from said cylindrical chamber into said mandrel, reaming bits or slips tiltingly mounted on the lower end of said rod, said bits or slips having shanks extending above said lower end of said rod, said shanks having tapered upper ends corresponding to said tapered chamber, said bits or slips adapted to contact with the walls of said chambers and provided with shoulders adapted to contact with the end of said mandrel when said bits are in operative position.

11. An underreamer comprising a mandrel, a spring-actuated rod slidable therein, said mandrel having at its lower end a cylindrical chamber and an inner and smaller chamber above said cylindrical chamber, an abutment formed between the adjoining ends of the walls of said chambers, reaming-bits mounted on said rod and provided with surfaces adapted to contact with said abutment to tilt said bits.

12. An underreamer comprising in combination a mandrel having a cylindrical chamber in its lower end and a tapering chamber above said cylindrical chamber and forming an inward extension thereof, a spring-actuated rod slidably mounted in said mandrel and extending up from said cylindrical chamber into said mandrel, the end of said rod in said cylindrical chamber being formed in the shape of an arrow-head, reaming bits or slips having sockets to receive the wings of said arrow-head and tiltingly mounted thereon,

said bits or slips having shanks extending above said lower end of said rod and into said tapering chamber, the upper ends of said shanks being tapered to correspond to said tapered chamber, said bits or slips adapted to contact with the walls of said chambers and abut against the end wall of said tapered chamber and provided with shoulders adapted to abut against the end of the mandrel when in operative position.

13. An underreamer comprising a centrally-bored mandrel having a cylindrical chamber in its lower end and a recess above said cylindrical recess, a beveled or inclined shoulder or abutment formed between said recesses, a spring-actuated rod slidably mounted in said central bore, said rod having an arrow-head-shaped end in said cylindrical chamber, bits or slips having sockets corresponding to and adapted to receive the wings of said arrow-head and having shanks extending up into said cylindrical chamber and recess thereabove and provided with shoulders to abut against said abutment, said bits or slips abutting against the end wall of said recess when in operative position.

14. An underreamer comprising in combination, a mandrel, a spring-actuated rod slidable therein, said mandrel having in its lower end a cylindrical chamber and an inner and smaller chamber above said cylindrical chamber, an inclined or beveled abutment formed between the adjoining walls of said chambers, said rod provided with an arrow-head-shaped end, reaming-bits provided with sockets corresponding to and adapted to receive the wings of said arrow-head and thereby tiltingly supported on said rod, said bits provided with surfaces adapted to contact with said inclined shoulder or abutment to cause the bits to tilt.

15. An underreamer comprising a mandrel provided in its lower end with an inwardly-extending socket or chamber, said chamber provided intermediate its length with an inclined shoulder or abutment, a spring-actuated rod slidably mounted in said mandrel and extending through said socket or chamber up into the mandrel, two slips or bits pivoted to said rod and respectively furnished at their upper ends with shanks extending above the pivotal point to enter the upper end of said socket or chamber, said bits or slips provided with inclined shoulders above said pivot-point to abut against said inclined abutment in said socket or chamber to tilt said bits.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FREDERICK W. JONES.

Witnesses:

D. W. HUFFMAN,
ARTHUR H. BLANCHARD.

[Endorsed]: 809,570. U. S. Dist. Court, Southern Dist. of California, Southern Division. Wilson v. Union Tool Co., A-4, B-62, Consolidated. Jones, Complainant's Exhibit on Cross-examination of Fred W. Jones. Copy of Jones U. S. Patent No. 809,570. Aug. 14, 1915. I. Benjamin, Special Examiner. Wilson vs. Union Tool Co., A-4, B-62 Consolidated. Complainant's Exhibit Copy of Jones U. S. Patent No. 809,570. Leo. Longley, Notary Public. Aug. 30, 1915. [822]

Defendant's Exhibit Swan Patent—Letters Patent Issued to J. C. Swan for Underreamer.

No. 683,352.

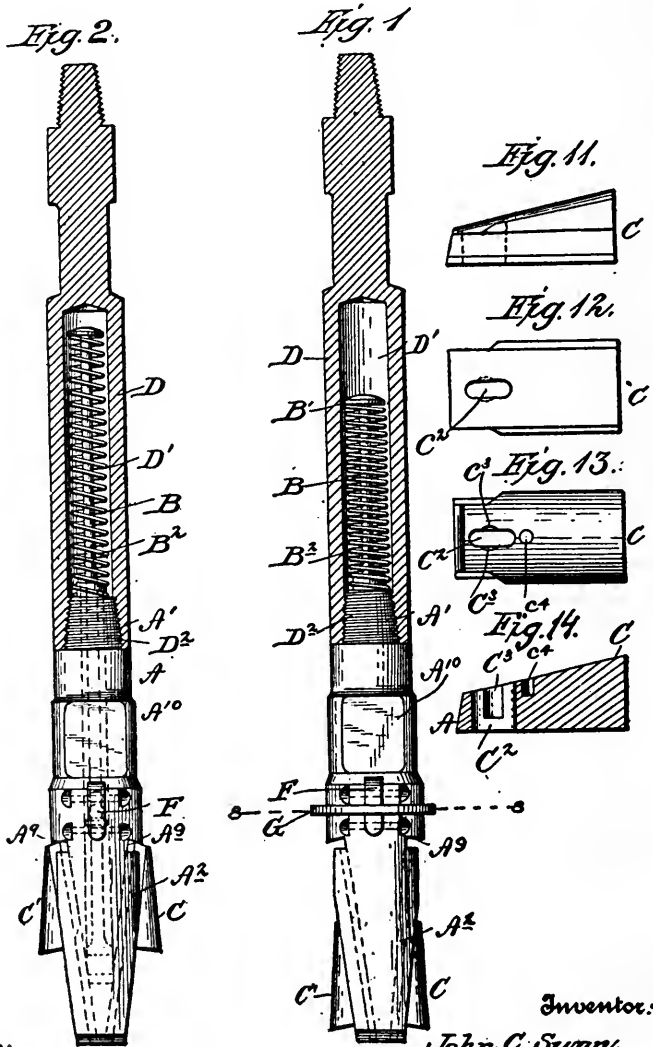
Patented Sept. 24, 1901.

J. C. SWAN.
UNDERREAMER.

(Application filed Dec. 10, 1900.)

(No Model.)

2 Sheets—Sheet 1



Witnesses
Frank L. Curran
Wm. O. Brecken

Inventor:
John C. Swan.
by Sturtevant & Buckley
Attorneys

No. 683,352.

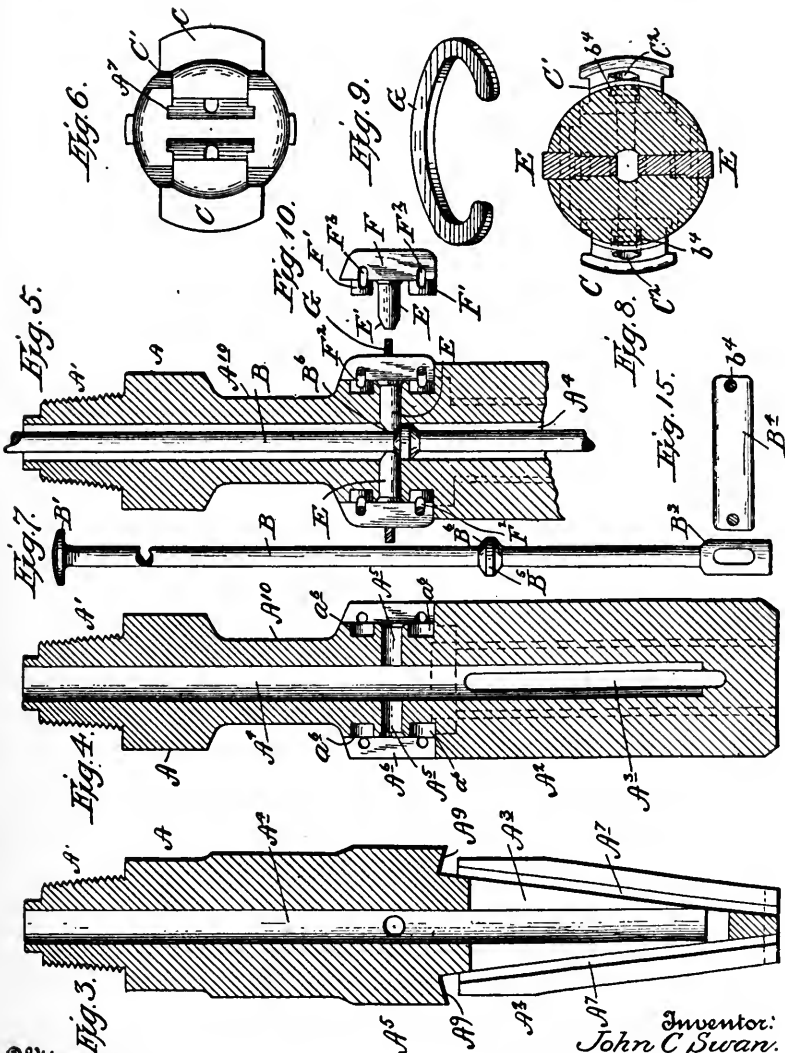
Patented Sept. 24, 1901.

J. C. SWAN.
UNDERREAMER.

(Application filed Dec. 10, 1900.)

(No Model.)

2 Sheets—Sheet 2.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN C. SWAN, OF MARIETTA, OHIO, ASSIGNOR TO SWAN MACHINE & TOOL COMPANY, OF SAME PLACE.

UNDERREAMER.

SPECIFICATION forming part of Letters Patent No. 683,352, dated September 24, 1901.

Application filed December 10, 1900. Serial No. 39,404. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. SWAN, a citizen of the United States, residing at Marietta, in the county of Washington, State of Ohio, have invented certain new and useful Improvements in Underreamers, of which the following is a description, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to devices for reaming out or enlarging well-holes, and particularly to devices of such character intended for underreaming—that is, reaming out or enlarging the well-hole drilled below a casing in order to permit the casing to be lowered farther down; and my invention consists in the construction and combination of devices for this purpose hereinafter described.

In the drawings, Figure 1 is a perspective view, partly in section, showing the reaming-heads held in contracted position by means of the removable ring. Fig. 2 is a corresponding view showing the reaming-heads in expanded position ready for operation. Fig. 3 is a longitudinal sectional view of the reamer-body. Fig. 4 is a longitudinal sectional view of the reamer-body, taken on a plane at right angles to that on which Fig. 3 is taken. Fig. 5 is a longitudinal sectional view of the same plane as Fig. 4, showing the actuating-rod and trips in position. Fig. 6 is a cross-sectional view showing the reaming-heads in expanded position. Fig. 7 is a detail of the actuating rod and spring. Fig. 8 is a cross-section on line 8 8 of Fig. 1. Fig. 9 is a detail of the removable ring. Fig. 10 is a detail view of one of the trips. Figs. 11, 12, 13, and 14 are detail views of the reaming-heads, and Fig. 15 is a detail of the pin which carries the reaming-heads.

In the drawings, A is the reamer-body, having at its upper end the screw coupling or pin A' and having its lower end A² wedge-shaped or tapered, as shown. Through the wedge-shaped or tapered portion is formed a slot A³, extending from a point near the lower end of this portion nearly to its upper end. A central bore A⁴ extends from the upper end of the reamer-body nearly to the lower end of the slot. In the sides or housing of the wedge-shaped or tapered portion A² ways

A⁷ are cut. These ways are made substantially dovetailed or wider at their inner ends, as shown at A⁸, in order to receive and retain corresponding extensions on the sides of the reaming-heads C. At the upper ends of the ways A⁷ are arranged abutments A⁹, preferably formed by cutting away the material of the reamer-body at an angle of about nineteen degrees to the horizontal. A short distance above these abutments radial holes A⁵ at right angles to the central bore A⁴ are formed. At the outer ends of these holes A⁵ are formed longitudinal recesses A⁶. Above these recesses is formed the usual too-square A¹⁰.

In the central bore A⁴ of the reamer-body is arranged the spring-rod B. The rod extends above the upper end of the reamer-body and has a head B' at its upper end. Around the rod, between the head B' and the upper end of the reamer-body, is arranged a coiled spring B². The lower end of the rod B is also provided with a head B³. This head is slotted, as shown, and through it passes a flat pin B⁴. This pin extends radially outward in both directions through the slot A³ and carries at each end a reaming-head C, the reaming-heads being arranged to have free movement on the pin and the pin being arranged to be freely movable in the slot in the head B³. The reaming-heads C are provided with slots C², in which the ends of the pin B⁴ are received. These slots are countersunk at their outer ends, as shown at C³, to receive the heads of rivets b⁴, which are passed through the outer ends of the pin B⁴ and serve to prevent the removal of the reaming-heads from the pin. The outer faces of the reaming-heads are curved, preferably, on the arc of a circle of the diameter to which the well-hole is to be enlarged. The heads are wider at their lower ends than at their upper ends. Their rear portions are made narrower than their faces in order to fit within the ways A⁷ of the reamer-body and are substantially dovetailed in cross-section to fit and be retained by the ways. The upper ends of the reaming-heads are cut at an angle corresponding with the faces of the abutments A⁹, against which they rest when in expanded position, as hereinafter described. The reaming-heads are provided in their outer faces with

recesses c^4 for the insertion of hooks, by which they may be drawn downward into the position shown in Fig. 1.

Secured to the upper end of the reamer-body by its box D^2 , which screws onto the screw coupling or pin A' , is a spring-ease D , having a central longitudinal bore D' of a diameter sufficient to receive the rod B with its spring B^2 . This bore D' extends upward a distance sufficient to permit the rod B to pass freely into it. The bore D' being closed at its upper end forms an air-tight chamber, which in operation will be so far filled with air under pressure as to exclude the water and sediment in which the tool ordinarily works from contact with the spring under ordinary pressures and to expel any water or sediment which may have entered the chamber under extraordinary pressures as the reamer is drawn upward. The spring B^2 , acting against the head B' , forces the rod B , and with it the pin B^4 , upward until the pin reaches the upper end of the slot A^3 . The pin will carry with it in its movement the reaming-heads C , and as these heads move upward they will be caused to move outward by their engagement with the central wedge and with the ways A^7 , cut in the housing or sides of the wedge-shaped or tapered lower portion A^2 of the reamer-body. At the limit of their upward movement the reaming-heads will rest with their upper angular ends in contact with the angular faces of the abutments A^9 . In this position the heads are ready for use. By drawing the reaming-heads downward they are caused to travel inward by reason of their engagement with the ways A^7 of the wedge-shaped or tapered portion A^2 of the reamer-body. The pin B^4 , and with it the spring-rod B , will be drawn downward with the heads until the pin reaches the lower end of the slot A^3 . In order to hold the reaming-heads in this position, I provide the rod B with an obstruction, preferably in the form of a shoulder B^5 , having a beveled upper face B^6 . When the reaming-heads are drawn down as far as possible, this shoulder B^5 is in position to have its beveled face engaged by the tapered ends E' of pins E , which are inserted in the holes A^5 , above described. These pins are preferably integral with trips F , which are preferably narrow strips of metal fitting the longitudinal recesses A^6 , above described. The angle of the beveled face B^6 of the shoulder B^5 and the taper E' of the pins E is such that if the pins are not positively held against the rod the spring B^2 will cause the bevel B^6 to force the pins outward sufficiently to permit the shoulder to pass the ends of the pins. The trips F are preferably provided on their inner faces with projections F' , which enter recesses a^6 in the reamer-body and are provided with slots F^2 , through which pass pins a^7 . By means of these pins and slots the movement of the trips is guided and at the same time limited. The projections F' and recesses a^6 also aid in guiding

the movement of the trips. It should be understood, however, that the form of the trips may be varied, it being essential only that the trips be capable when held at the limit of their inward movement of holding the pins E with their inner ends against the beveled faces of the shoulder B^5 , and thus preventing the upward movement of the spring-rod.

In order to insert the tool in the casing of the well, the reaming-heads will be drawn downward, as above described, to the limit of their movement in that direction. This will compress the spring B^2 and bring the shoulder B^5 in position to have its upper face B^6 engaged by the inner ends of the pins E . The pins E are then forced inward by pressure on the trips F , and the trips and pins are temporarily held in position by a removable ring G , made open at one side, as shown in Fig. 9, so that it can be readily slipped into place and removed at the tool-square formed on the reamer-body. The tool is then lowered into the casing. The reaming-heads will enter the casing freely and will pass through it without contact with its interior. The trips F will enter the casing and will be held from outward movement by contact with its interior. The ring G will not enter the casing; but as the tool enters the ring will be pushed upward until it reaches the tool-square, when it may be readily removed. The trips F are preferably rounded at their lower ends, so as to enter the casing readily and to pass any slight obstruction which may be met with as the tool is lowered through the casing. Their upper ends are preferably inclined and rounded, as shown, so as to enter the lower end of the casing when the tool is drawn upward through the casing. As the tool is lowered the reaming-heads, through the action of the interior walls of the casing holding the trips and pins from outward movement, and thus holding the spring-rod from upward movement, will be held out of contact with the interior of the casing, thus avoiding wear on the reaming-heads and possible injury to the casing. It will be understood that it is essential to the successful introduction of the reamer into the casing that the heads be held in this contracted position out of contact with the interior. As soon as the trips pass below the lower end of the casing, which, as will be understood, is elevated a short distance from the shoulder of the small hole to be reamed for the purpose of affording the space necessary for an effective stroke of the reamer, they will be forced outward by the action of the bevel B^6 on the ends of the pins E , the shoulder B^5 will pass the ends of the pins, and the reaming-heads through the action of the spring B^2 will be forced upward on the wedge-shaped or tapered portion A^2 until their upper ends rest against the abutments A^9 . They are then in position for operation. In operation this tool is made a part of the usual string of oil and Artesian well drilling tools. As the tool is raised and

allowed to fall, as in the usual operation of drilling, the lower outer edges of the reaming-heads will strike upon the shoulder left below the lower end of the casing and cut it away, thus enlarging or reaming out the hole already drilled to the size desired. The lower end of the portion A² of the reamer-body below the lower edges of the reaming-heads will enter the hole already drilled, and thus serve as a guide for the tool. If, as is often the case, the reaming-heads stick at the point of impact, the lift of the tool will free them by causing them to be drawn inward.

While it should be understood that sufficient metal is left in the tapered or wedge-shaped portion A² to give the necessary strength, the main effect of the impact of the reaming-heads on the material acted on by them is sustained by the abutments A⁹. The force of the impact tends to drive the lower ends of the reaming-heads inward and by a lever action to force the upper ends of these heads outward. This tendency to force the upper ends outward is overcome by forming the abutments A⁹ angular, as shown. The strain is thus taken off the upper portion of the ways A⁷.

In withdrawing the reamer as the tool is drawn upward the lower end of the casing coming in contact with the trips will force them inward, and as the tool is raised farther the end of the casing will cause the reaming-heads to move downward on the inclined portion A² until they are carried inward sufficiently to permit of their entrance within the casing. As the tool is raised through the casing the outer edges of the heads will necessarily be in contact with the interior of the casing.

The ways A⁷ are open at their lower ends, this construction permitting the reaming-heads to be readily removed and replaced, the pin B⁴ preventing the heads from dropping out in operation. The portion of the wedge or taper in which the ways A⁷ are formed is made of sufficient thickness to not only serve as a guide for the tool, as above described, but to also sustain the wear caused by the sidewise movement of the end of the tool in operation and the side blows of the reaming-heads, due to irregularities of the shoulder in hard rock.

It should be understood that the shoulder B⁵ may be of any preferred form, it being essential only that it be of sufficient size to have the beveled upper face B⁶ formed on it.

I prefer to make the reaming-heads in one piece of steel; but it should be understood that they may be made in one or more pieces and may be made part of steel and part of iron, as found most desirable. It should also be understood that I do not desire to be limited to the precise form or precise construction of the several parts of my device as shown and described, it being obvious that many changes may be made without depart-

ing from the essential features of my invention.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In an underreamer, the combination of a reamer-body having a tapered or wedge-shaped portion, a reaming-head arranged to be movable on said tapered or wedge-shaped portion, means for automatically moving the reaming-head to the base or thick end of the tapered or wedge-shaped portion, and means arranged to contact with the interior of the casing for holding the reaming-head at the narrow end of the tapered or wedge-shaped portion during the passage of the tool through the casing; substantially as described.

2. In an underreamer, the combination of a reamer-body having an oblique face formed thereon, an abutment at the upper end of the oblique face, retaining-ways along the oblique face, a reaming-head arranged to slide on the oblique face and to stop against the abutment, a spring above said abutment, connections between the spring and reaming-head for holding the reaming-head against the abutment and means arranged to contact with the interior of the casing for holding the reaming-head away from the abutment during the operation of lowering the tool through the casing; substantially as described.

3. In an underreamer, the combination of a reamer-body having a tapered or wedge-shaped portion, retaining-ways along the faces of the tapered or wedge-shaped portion, abutments at the upper ends of said faces, reaming-heads arranged to be movable on the tapered or wedge-shaped portion, a spring arranged to automatically move the reaming-heads into contact with said abutments and means arranged to contact with the walls of the well-casing for locking the spring against operation during the passage of the tool through the casing; substantially as described.

4. In an underreamer, the combination of a reamer-body, having a tapered or wedge-shaped lower portion, the lower end of which is adapted to enter the hole to be reamed or enlarged, abutments at the upper end of the tapered or wedge-shaped portion, reaming-heads movable on the tapered or wedge-shaped portion and arranged to stop against said abutments, yielding means for moving the reaming-heads to the wider end of the tapered or wedge-shaped portion into contact with said abutments, means arranged to contact with the interior of the casing for temporarily locking said yielding means against operation to hold the reaming-heads at the narrow end of the tapered or wedge-shaped portion, and means for retaining said locking means in operative position before the tool is inserted in the well-casing; substantially as described.

5. In an underreamer, the combination of a reamer-body, having a tapered or wedge-

shaped lower portion, reaming-heads movable in ways on said tapered or wedge-shaped portion, a rod within the reamer-body having near its lower end a pin extending through a slot in the reamer-body, and carrying the reaming-heads, a spring arranged to force the rod and with it the reaming-heads, upward into expanded position, pins carried by the reamer-body having their inner ends adapted to engage a shoulder carried by the rod to hold the rod from upward movement, and means for holding the pins in engagement with the shoulder on the rod during the passage of the tool through the well-casing; substantially as described.

6. In an underreamer, the combination of a reamer-body, having a tapered or wedge-shaped lower portion, reaming-heads movable in ways on said tapered or wedge-shaped portion, a rod within the reamer-body having near its lower end a pin extending through a slot in the reamer-body, and carrying the reaming-heads, a spring arranged to force the rod and with it the reaming-heads, upward into expanded position, pins carried by the reamer-body having their inner ends adapted to engage a shoulder carried by the rod to hold the rod from upward movement, and means adapted to contact with the interior of the casing for holding the pins in engagement with the shoulder on the rod during the passage of the tool through the well-casing; substantially as described.

7. In an underreamer, the combination of a reamer-body having a tapered or wedge-shaped portion provided with ways, reaming-heads carried in said ways, a pin connecting the reaming-heads and movable therein, a longitudinal rod having a shoulder thereon

within the reamer-body, through which the 40 pin passes and is freely movable, means for moving the rod and means engaging the shoulder on the rod and arranged to contact with the interior of the casing for preventing the movement of the rod during the passage 45 of the tool through the well-casing; substantially as described.

8. In an underreamer, the combination of a reamer-body having a tapered or wedge-shaped portion provided with ways, reaming-heads carried in said ways having their upper ends terminating at an oblique angle, and abutments formed on the reamer-body above the ways, having faces arranged at an oblique angle adapted to receive the upper ends 50 of the reaming-heads and yielding means arranged above said reaming-heads for holding them against said abutments; substantially as described.

9. In an underreamer, the combination of 60 a reamer-body having ways formed in its lower portion, reaming-heads carried in said ways, having their upper ends terminating at an oblique angle, and abutments formed on the reamer-body above the ways having their 65 faces arranged at an oblique angle adapted to receive the upper ends of the reaming-heads whereby the force of the blow upon the abutments is directed inward toward the center of the reamer-body and yielding means 70 for holding the reaming-heads against said abutments; substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN C. SWAN.

Witnesses:

GRAFTON L. MCGILL,
A. P. GREELEY.

[Endorsed]: Wilson vs. Union Tool. Swan. U. S. Dist. Court, Southern Dist. of Cal. Southern Division. Wilson v. Union Tool Co. In Equity, A-4. July 23, 1915. Defendant's Exhibit Swan Patent. I. Benjamin, Notary Public. [823]

Defendant's Exhibit O'Donnell and Willard Patent
—Letters Patent Issued to T. A. O'Donnell and
A. G. Willard for Underreamer and Drill.

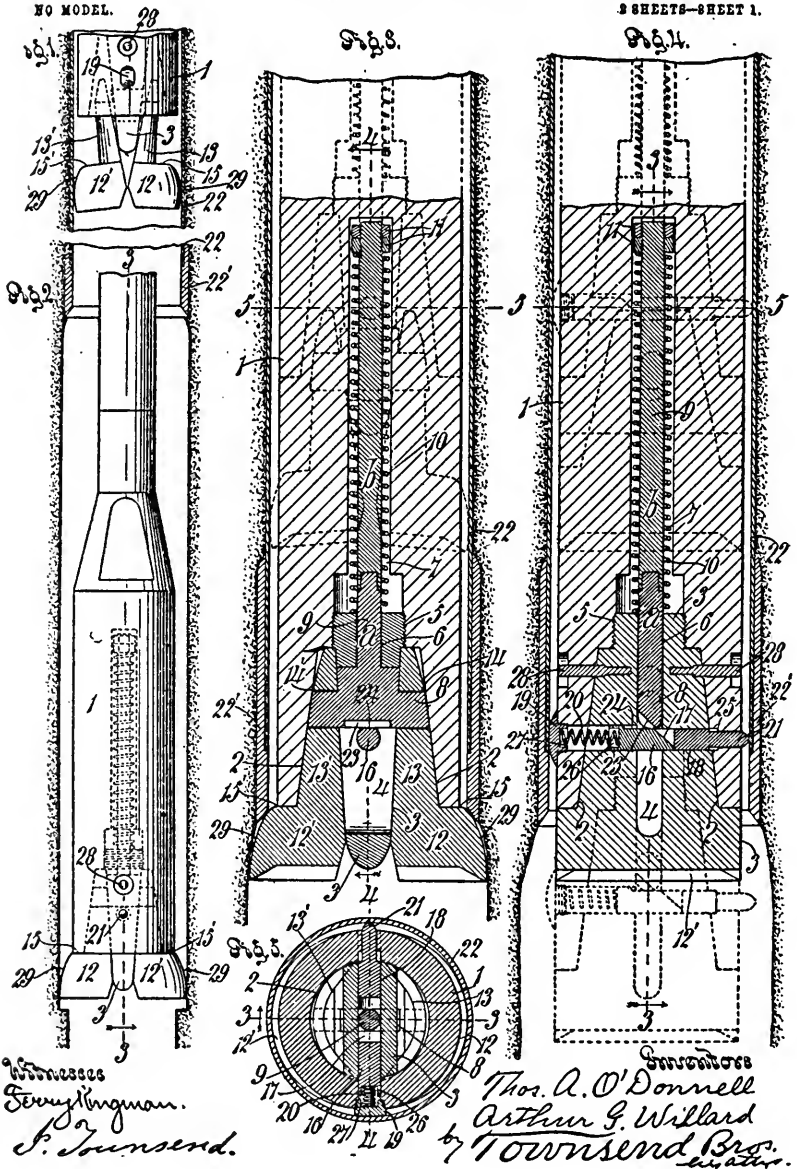
No. 762,435.

PATENTED JUNE 14, 1904.

T. A. O'DONNELL & A. G. WILLARD.

UNDERREAMER AND DRILL.

APPLICATION FILED DEC. 8, 1899.



No. 762,435.

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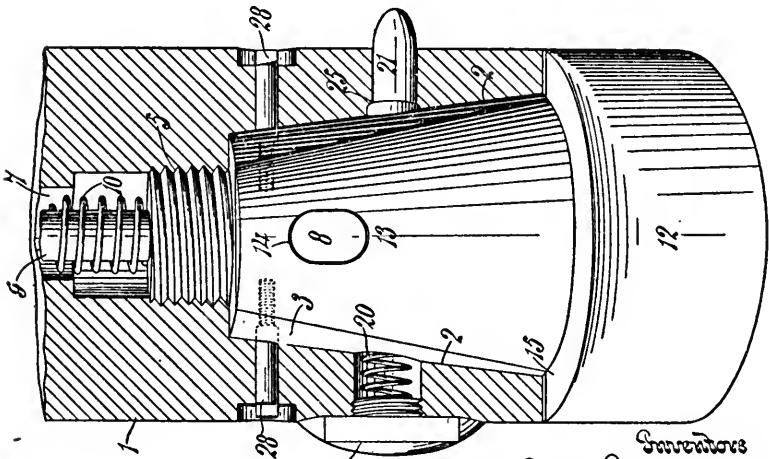
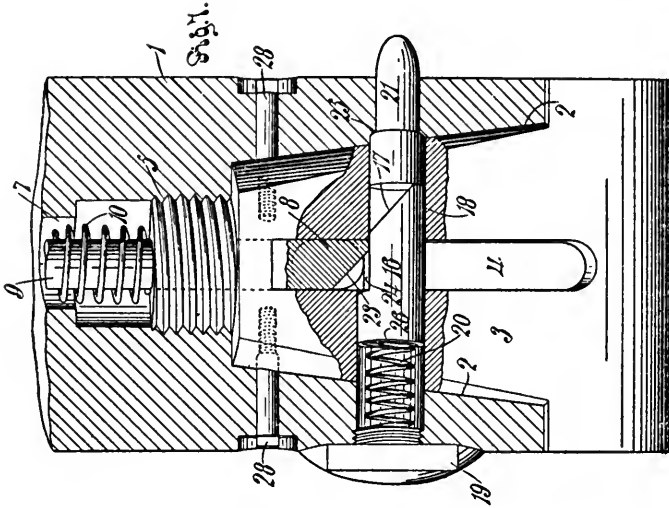
T. A. O'DONNELL & A. G. WILLARD.

UNDERREAMER AND DRILL.

APPLICATION FILED DEC 8 1899

NO MODEL.

2 SHEETS—SHEET 2



Witnesses
 E. J. Ingman.
 J. Townsend.

Fig. 2.
 Inventors
 Thos. A. O'Donnell
 Arthur G. Willard
 by Townsend Bros
 Attys

UNITED STATES PATENT OFFICE.

THOMAS A. O'DONNELL AND ARTHUR G. WILLARD, OF LOS ANGELES,
CALIFORNIA.

UNDERREAMER AND DRILL.

SPECIFICATION forming part of Letters Patent No. 762,435, dated June 14, 1904.

Application filed December 8, 1899. Serial No. 739,712. (No model.)

To all whom it may concern:

Be it known that we, THOMAS ARTHUR O'DONNELL and ARTHUR GAY WILLARD, citizens of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Underreamer and Drill, of which the following is a specification.

The object of our invention is to provide an underreamer and drill which can be readily lowered through a casing smaller than the hole to be drilled and which in operation will expand below the casing and will ream out and drill a hole below the casing larger than the casing and which can invariably and without difficulty be drawn up through the casing whenever it is so desired. This underreamer is adapted for use in all kinds of formation and in deep wells, such as oil-wells and Artesian wells. A difficulty to be avoided in the use of underreamers is the liability of damaging the shoe or lower end of the casing when it is attempted to ream close to the casing.

One object of our invention is to avoid any danger of such injury to the casing when reaming close to the casing, but at the same time providing for the positive locking of the jaws while they are below the casing. It is very important in the operation of underreamers that the jaws shall be positively locked when they are working underneath the casing, so that there shall be no looseness of parts and no liability of the jaws being crowded together or failing to cut.

Another object of our invention is to so construct the underreamer that there will be no openings through which dirt can get into the inside of the underreamer to cause clogging or unnecessary wear.

Another object of our invention is to provide for the absolute automatic operation of the locking and unlocking device, so that whenever the reamer passes below the casing it will immediately expand and positively lock, and whenever it is drawn upward sufficiently to cause the jaws to engage the casing the jaws will collapse and pass into the casing without any obstruction.

The accompanying drawings illustrate our invention.

Figure 1 is a fragmental view showing a side elevation of the lower end of our underreamer as it appears in passing down inside the well-casing. In this view the side of the stock which is at the left in Fig. 4 is shown. Fig. 2 is a like view showing the underreamer in operation below the casing. In this view the side of the stock which is at the right in Fig. 4 is shown. Fig. 3 is a vertical mid-section on line 3 3, Figs. 2, 4, and 5. Fig. 4 is a vertical mid-section on line 4 4, Figs. 3 and 5. Fig. 5 is a sectional plan on a plane cutting through the locking-bolt. The plane of this section is indicated by the line 5 5, cutting through the dotted position shown in Figs. 3 and 4. Fig. 6 is a fragmental perspective detail view showing the interior parts, which are detachable from the stock. A fragment of the stock is shown in vertical mid-section. Fig. 7 is a like fragmental perspective view illustrating the interior parts in further detail.

1 indicates the stock, provided with an upwardly-tapering frusto-conical socket 2 in its lower end, which socket is practically formed into two tapering sockets by a vertically-slotted wedge-shape partition 3, extending across the socket 2 of the stock and fitted at its opposite edges to the socket and provided with a transverse slot 4. The upper end of the partition 3 is screw-threaded, as at 5, and screwed into the stock.

6 indicates a way through the upper end of the partition, leading from the slot 4 into a spring-chamber 7, provided in the stock above the partition.

8 indicates a cross-head in the slot and provided with a stem 9, extending through the way 6 into the spring-chamber.

10 indicates the spring in the spring-chamber for normally holding the stem up.

11 indicates nuts on the upper end of the stem to rest upon the spring.

12 indicates a jaw member provided with a tapering shank 13 to fit in one of the tapering shank-sockets formed between the partition 3 and the wall of the tapering socket 2 in the end of the stock. The shank 13 is provided with a cross-head socket 14 in the extended plane of the slot 4 of the partition. The jaw member is provided with a shoulder 15 to fit

against the lower end of the stock when the shank is fully seated in the tapering socket. 12' indicates a like jaw member provided with the shank 13', cross-head socket 14', and shoulder 15', and said jaw member 12', is arranged with its shank in the other socket formed therefor between the partition 3 and the wall of the tapering socket 2. The cross-head 8 is arranged to play in the slot 4, and its opposite ends are inserted in the cross-head sockets 14 14', so that the two jaw members are carried by the spring 10 through the medium of the stem and cross-head.

16 indicates a spring-pressed bolt normally extending across the slot 4 in the path of the cross-head 8 to lock the cross-head against lowering. In Fig. 3 the normal locking position of this bolt is indicated in dotted lines at the lower end of the view. The outer end of the bolt is provided at its upper side with a beveled face 17, which is normally chambered in a portion of the bolt-hole 18, which extends through the partition and through the stock, being closed at one end by a screw-plug 19.

20 indicates a spring in the bolt-hole to normally hold the bolt 16 normally inserted across the slot 4 with its beveled portion 17 fully beyond the slot.

21 indicates a bolt-retracting pin mounted in the bolt-hole and normally projecting from the side of the stock to be engaged and thrown by the well-casing 22 to bring the bolt 16 into position shown in solid lines in Fig. 4, with the beveled face 17 of the bolt in the path of the cross-head 8. The cross-head 8 has a beveled face 23 to engage the beveled face 17 of the bolt when the bolt is in its retracted position. (Shown in solid lines in Fig. 4.)

The spring 10 is of sufficient strength to normally hold the jaws 12 12' in their up-drawn position, with their shanks fully seated in the sockets therefor. The bolt-hole 18 is larger at the end which is closed with the plug 19 than at the opposite end, and shoulders 24 and 25 are provided to respectively prevent the bolt and the bolt-retracting pin from being thrown too far by the force of the bolt-spring 20. Preferably the bolt 16 is provided with a chamber 26 to seat one end of the spring 20, and the spring-holding plug 19 is provided with a like chamber 27 to seat the other end of the spring 20.

For convenience in assembling the parts the cross-head stem 9 is made of two parts, one of which, *a*, is integral with the cross-head and the other, *b*, is screwed to the part *a*. The part *a* of the stem together with the cross-head are of less length than the slot 4, and said stem is of greater length than the way 6, so that the part *a* and cross-head 8 can be inserted into the slot and the section *a* then pushed up through the way 6. Then the section *b* of the stem 8 is screwed onto the section *a*, after which the spring is placed in

position and the nuts 11 screwed down into place to give the appropriate tension to the spring which rests upon the upper end of the partition 3. Then the jaws 12 12' are placed against the sides of the partition with their sockets 14 14' caught over the ends of the cross-head 8, and the parts thus assembled are inserted into the conical socket 2 and turned to screw the screw-threaded upper end of the partition into the screw-threaded part therefor in the stock. 28 indicates a screw inserted through the stock and screwed into the partition to prevent the partition from unscrewing. After the parts have thus been assembled the bolt-retracting pin 21 is inserted into the bolt-hole and guideway 18. Then the bolt 16 is inserted into the bolt-hole 18 and the spring 20 is brought into place and the plug 19 screwed home. The tool is then in condition for operation.

In practical operation in order to start the tool down into the well through the casing 22 the workman will first push the bolt-retracting pin 21 into the position indicated in solid lines in Fig. 4 and then will draw the jaws 12 12' down into the position indicated in Fig. 1. Then the tool will be let down into and allowed to pass through the casing. It is to be observed in Figs. 1 and 4 that the jaws are rounded, as at 29, so that the cutting edge of the jaws are returned when the jaws are in their down-drawn position, so that the cutting edges will not touch the casing during the descent of the tool. When the tool has passed beyond the shoe 22' of the casing, the spring 10 draws the cross-head up, thus drawing the bits up into their socket in the stock. The jaws engaging the walls of the well will be held thereby sufficiently so that the downward stroke of the stock assists the action of the spring to seat the jaw-shanks firmly in their sockets, thus bringing the shoulders 15 15' to fit firmly against the end of the stock. The spring 20 throws the bolt 16 and the pin 21 so that the beveled face 17 of the bolt is chambered in the partition, and the cross-head is thus effectually locked against drawing out of the stock on the upstroke of the stock. Whenever the tool is drawn upward so far that the pin 21 is again forced in by the shoe 22' of the casing, the bolt is thrown into its unlocking position, so that when the shoulders 15 15' of the jaws engage with the shoe 22' the cross-head is free to slip in the stock, thus to allow the stock to be drawn up while the jaws collapse into the position indicated in solid lines in Fig. 1 and in dotted lines in the upper position in Fig. 3. The tool can therefore be readily drawn out through the casing and can be lowered and raised at pleasure, and whenever it is below the casing it is ready for effective operation, as before described.

The partition 3 is flat-faced and holds the jaws spread apart when the shanks are fully 130

seated in the shank-sockets. The ends of the cross-head have sufficient play in their sockets to allow the jaws to swing freely toward each other as the shanks withdraw from the shank-sockets.

The bolt and its retracting-pin are to be located as close as possible to the shoulders and the cutting edges of the jaws, so that the jaws may become locked as soon as possible after passing below the lower end of the casing and will work in locked position very close to the bottom of the casing, and yet will always be fully unlocked before the shoulders can injure the bottom of the casing on an upstroke.

What we claim, and desire to secure by Letters Patent of the United States, is—

1. An underreamer comprising a stock provided with two tapering sockets in its lower end, a vertically-slotted wedge-shaped partition between the sockets, and having bolt-holes opening from the slot axially in line with each other below the top of such sockets, such stock being also provided with a spring-chamber above the partition; a jaw member provided with a tapering shank to fit in one of said sockets, and also provided with a shoulder to fit against the lower end of the stock when the tapering shank is seated in its socket, said shank being provided with a cross-head socket in the extended plane of said slot; a like jaw member having its shank seated in the other socket of the stock; a cross-head to play in the slot and having its opposite ends seated in the sockets of the shanks, respectively, and having a stem extending up into the spring-chamber; a spring in said chamber for normally holding up the stem, cross-head and jaws; a spring-pressed bolt normally extending across the slot in the path of the cross-head to lock the cross-head against lowering, said bolt having at the upper side of its end, a beveled portion normally chambered in the partition; a spring for normally holding the bolt in its locking position; and a bolt-retracting pin mounted in the bolt-hole and normally projecting from the side of the stock to be thrown by the well-casing to bring the bolt into position with the beveled portion of the bolt in the path of the cross-head.

2. The combination of a stock provided with a tapering socket in its lower end and with a spring-chamber above said socket and with a screw-threaded portion between said spring-chamber and said socket; a wedge-shaped partition fitted in the socket of the stock and provided with a transverse slot and screwed into the stock and provided with a way leading from the slot through the upper end of the partition; a cross-head in the slot and provided with a stem extending through the way into the spring-chamber; a spring in the spring-chamber for normally holding the stem up; two jaw members carried by the cross-head on the opposite sides of the parti-

tion and each provided with a tapering shank to fit the stock-socket on opposite sides of the partition and also provided with a shoulder to engage the lower end of the stock when the shanks are seated in their sockets in the stock; a spring-pressed bolt to play across the slot in the partition and provided with a beveled portion at the upper side and outer end; and a bolt-retracting pin mounted in the stock and normally projecting from the side of the stock to be thrown by the well-casing to bring the bolt into position with the beveled portion of the bolt in the path of the cross-head.

3. In an underreamer, the combination with a jaw-carrying head having a transverse guideway, of a locking-bolt for said head arranged in said guideway; a pin sliding in said guideway to retract the bolt to unlock the head; a stop for said pin being provided in the guideway; and a spring to normally press the bolt toward the stop and into locking position, and to project the pin from the head to be returned by contact with the casing.

4. An underreamer-stock provided with a socket in its lower end; a slotted, downwardly-tapering partition rigidly fixed in the socket to form two shank-seating sockets to seat the shanks of two jaws on opposite sides of said partition; a jaw on each side of said partition and a jaw-carrying head moving in the slot of said partition.

5. An underreamer comprising a stock, the lower end of which has two upwardly-tapering shank-seating sockets with a flat-faced downwardly-tapering partition rigidly fixed between said shank-seating sockets; a vertically-movable cross-head in the slot of the partition; shouldered jaws carried by said cross-head; and an upwardly-tapering shank for each socket.

6. An underreamer comprising a stock provided with a socket in its lower end; a stationary slotted partition fastened in the socket and extending from side to side thereof to form two shank-seating sockets to seat the shanks of two jaws on opposite sides of said partition; a jaw-carrying head moving in the slot of said partition; means for yieldingly holding said head up; and jaws carried by said head and having shanks seated in said sockets.

7. An underreamer comprising a stock provided with a plurality of tapering sockets in its lower end; a stationary, vertically-slotted partition separating the socket; a jaw member; a tapering shank for said jaw member, said shank being provided with a cross-head socket in the extended plane of said slot, a like jaw member having its shank seated in an opposite socket of the stock; a cross-head to play in the slot and having opposite ends seated in the sockets of the shanks, respectively, and having an upwardly-extending stem; means for yieldingly holding up the stem cross-head and jaws; a spring-pressed bolt normally extending across the slot in the path of the cross-

head to lock the cross-head against lowering, said bolt having at its upper end a beveled portion; a spring for normally holding the bolt in its locking position; and means adapted to be engaged by the well-casing to bring the bolt into position with the beveled portion thereof in the path of the cross-head.

In testimony whereof we have signed our

names to this specification, in the presence of two subscribing witnesses, at Los Angeles, 10 California, this 28th day of November, 1899.

THOS. A. O'DONNELL,
ARTHUR G. WILLARD.

Witnesses:

JAMES R. TOWNSEND,
FRANCIS M. TOWNSEND.

[Endorsed]: Wilson vs. U. Tool. O'D. & W. Patent. U. S. Dist. Court, Southern Dist. of California, Southern Division. Wilson v. Union Tool. A-4—In Equity. Defendant's Exhibit O'Donnell & Willard Patent. July 23, 1915. I. Benjamin, Notary Public. [824]

**Complainant's Exhibit Wilson Unassembled Under-
reamer—Photograph.**

[Endorsed]: Wilson vs. Union Tool Co. A-4—
B-62—Consolidated. Complainant's Exhibit Wilson
Unassembled Underreamer Photo. Leo. Longley,
Notary Public. Aug. 30, 1915. Graham Photo Co.,
110½ So. Broadway, Los Angeles, Cal. [825].



16



13



17



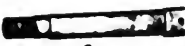
2



15



11



8



4



12



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18





**Complainant's Exhibit Wilson Underreamer
Handbook.**

[Endorsed]: 29. U. S. District Court, Southern District of California, Southern Division. Wilson v. Union Tool Co. In Equity, A-4. Complainant's Exhibit Wilson Underreamer Handbook, Los Angeles, Cal. March 24, 1914. I. Benjamin, Notary Public. [826].

229
 U.S. District Court, Southern
 District of California,
 Southern Division

Wilson } In Equity
 Union Tool Co } a-4

Compliments Exhibit
 Wilson Under-Reamer Handbook
 Los Angeles, Cal. March 14, 1914

J. Pruzanin
 Notary Public

The WILSON UNDER- REAMER



First Pat. July 7, 1909
 2nd Pat. Dec. 19, 1911

Patented July 31, 1906

Manufactured by the
**Wilson & Willard
 Mfg. Co.**

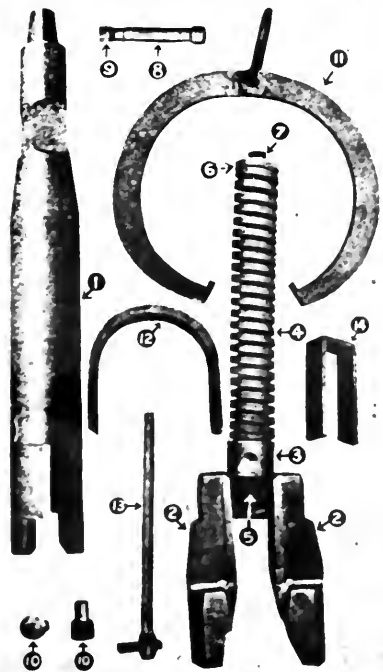
Santa Fe Avenue
 Between Alamo and 13th

LOS ANGELES. - CAL.

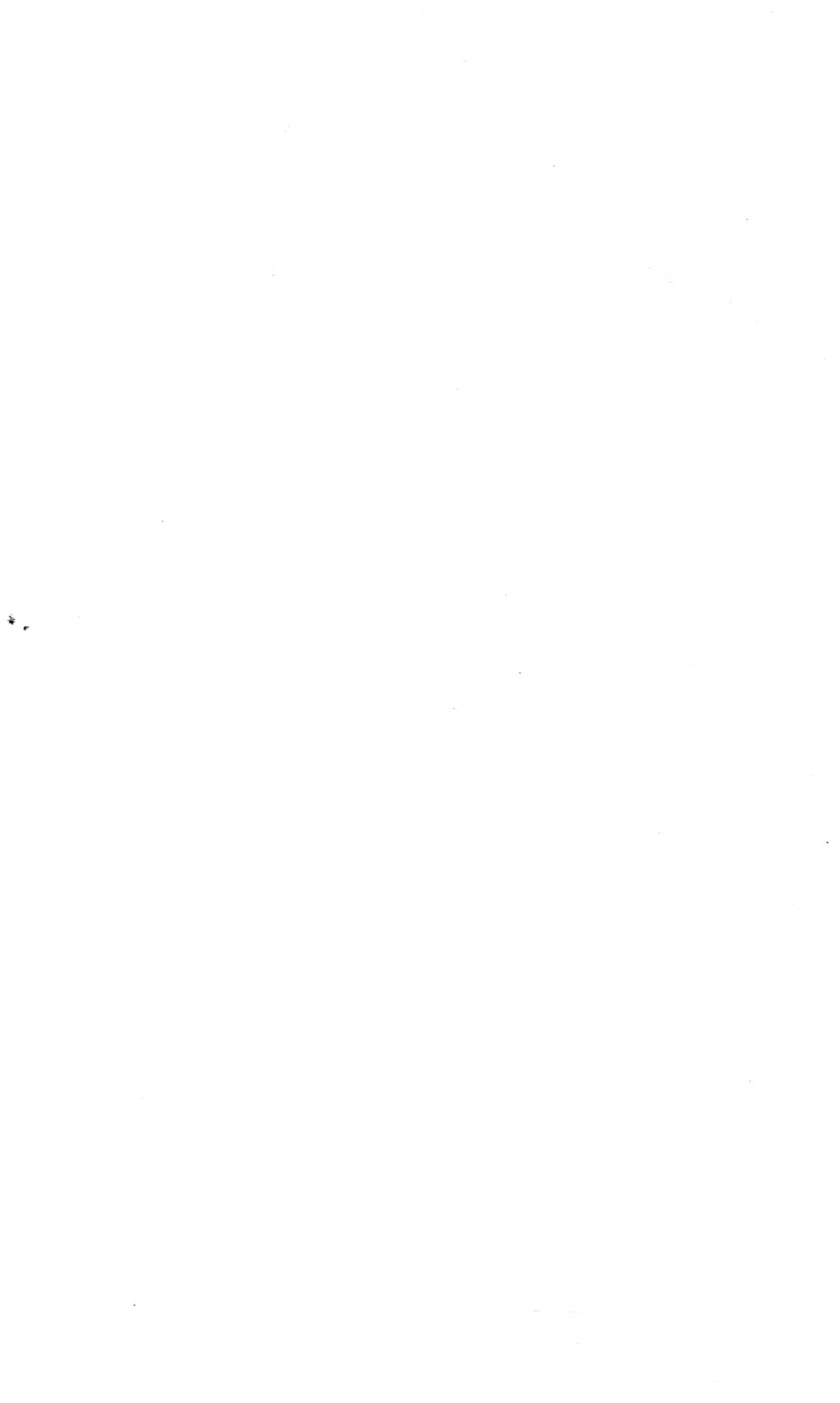
Telephone Main 6082

BAUMGARDT PUB. CO.

List of Wilson Under-Reamer Parts



- | | | | |
|--------|--------------------|--------|---------------------|
| Part 1 | Body | Part 8 | Safety Belt |
| 2 | Cutter Pin | 9 | Nut For Safety Belt |
| 3 | Block | 10 | Screws for Block |
| 4 | Springs | 11 | Toggle |
| 5 | Lee | 12 | U |
| 6 | Lee Nut | 13 | Wrench |
| 7 | Tee Nut Cutter Pin | 14 | Strap |



Don't like to lose UNDER-REAMER CUTTERS in the hole, do you?

Don't like to have to tie the reamer cutters together to get the reamer down the casing, do you?

Don't like to break UNDER-REAMER CUTTERS, do you?

Don't like to buy new CUTTERS so often, do you?

Why do you use a reamer which is not guaranteed against breakage? Well, you don't have to. Buy WILSON UNDER-REAMERS and stop all those troubles. Yes, the new WILSON UNDER-REAMER will stop all those troubles for you. You don't believe it? Look here and we'll prove it.



"T" FOR 8-INCH REAMER.

The WILSON UNDER-REAMER CUTTERS are attached to the reamer by a solid forged "T," or cross, like this. The cutters can't get off unless it breaks. Note the dimensions. See how much stronger it is than the "Key" used by other Reamers. Ours won't break. It can't get loose and come out like their "Key."



If that "T" should break here the cutters could not be lost in the hole, because the SAFETY BOLT would prevent it. They could not get off.

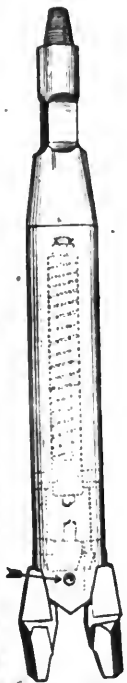


Suppose, for example, the "T" should break here. You couldn't lose but one cutter, could you? The other one would still be firmly in place on the other part of the "T." don't you see?

See that SAFETY BOLT? Nothing like it on any Reamer but the WILSON. Nothing on other reamers to hold the cutters when the key breaks, or comes out, is there?

Now, if the key on other Reamers breaks or comes out, both of their cutters are sure to be lost. You know that, and you would have twice the trouble the Wilson Reamer would give you if it were possible to break our "T."

Now isn't it plain to you that it is about impossible to lose the cutters off of the WILSON REAMER?





All who have used the WILSON REAMER know that its cutters close together more completely than any other. When they are drawn down there is only the safety-bolt between them; hence they collapse completely together. The ends of the cutters, even though they be dressed out fully, cannot catch on the joints of the casing. Consequently, a WILSON UNDER-REAMER will go down the casing without tying the cutters together.

Simple, isn't it?

It is a big advantage, too, as other reamers must be run to the bottom of the hole to open, or spread the cutters, and they often give much trouble to draw up through the shell or rock formation to begin reaming. Many times the cutters are lost off other Reamers doing so.



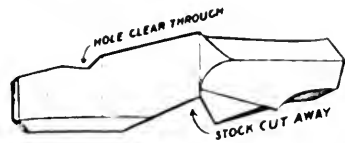
Now here is a WILSON UNDER-REAMER CUTTER. Note its strength at "A."



Suppose we should cut the stock out at the dotted lines, as shown here.



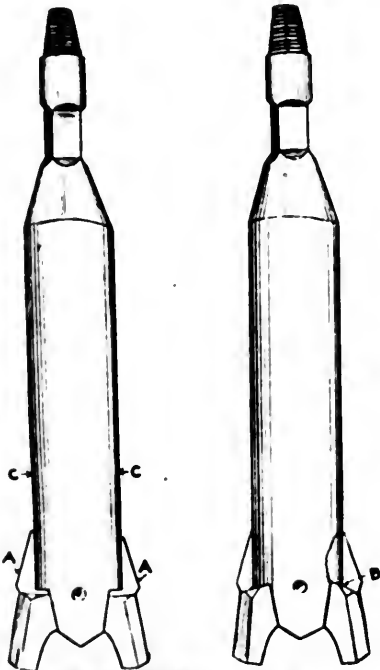
The cutter would then look something like this. It is very evident that the cutter has been badly weakened.



The cutters of other Reamers are cut away just like that, and, of course, are weak at those points, as shown in above cuts.

Now compare it with the WILSON CUTTER above.

The new style WILSON CUTTERS are the strongest. You can see that.



See page 9 for description

Notice the WILSON REAMER avoids the damaging thrust and wear at the point marked "A" by leaving a space between the cutters and the reamer body. (See page 8.) The first Reamer we made allowed the cutters to bear against the reamer body at that point. After some use the reamer body broke out, as shown by figure "B." We have not used that point as a bearing since, and don't propose to weaken our Reamers again by that bearing. You see, the cutters acted like a large cold chisel, and finally split the body, as shown at point "B."

What good could that bearing do anyway? The thrust bearings at point "C" are more than ample for their purpose. And the dove-tails on the WILSON REAMER BODY and on the cutters are twice as strong as is needed. Of all the great number of WILSON REAMERS in use, only one has broken the dove-tails of the body, or cutters, and that was the one which used that bearing! It is poor construction. We don't want it.





NO JOINT IN THE BODY OF WILSON REAMERS.

When you use a WILSON UNDER-REAMER you run no risk of the body coming unscrewed, as it has no joint in the middle. It is a solid forging. You know the trouble other under-reamers give when the body comes unscrewed and leaves a lower half of it in the hole. That causes the worst fishing job imaginable.

No such trouble with the WILSON UNDER-REAMER.

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Now, in addition to all the above decided advantages the WILSON UNDER-REAMER offers over any other, it is *absolutely guaranteed against breakage while in ordinary use.* We cannot, of course, guarantee cutters against breakage due to incorrect tempering, nor can we guarantee the Reamer against breakage caused by running the Reamer on any steel or pipe in the hole, but it is guaranteed against all breakage while in usual use. *No other Reamer is guaranteed.*

Now, you see, we are right. Use the WILSON UNDER-REAMER, and stop your reamer troubles. Try one, and if it is not a better reamer than any other make, you may return it and we will cancel our charge for it.

TAKE GOOD CARE OF YOUR UNDER-REAMERS.

Many operators will pull an Under-Reamer out of a wet, muddy hole, set it aside in the derrick, or haul it over to the toolhouse, and even sometimes throw it out on the ground in the rain and mud, and allow it to remain in that condition for days, and sometimes weeks or months; then when they do have use for it, and wish to take the cutters out, they find that the cutters have rusted fast in place, and more frequently find the pins or heavy screws and safety bolt rusted so that they cannot be

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Here is the reason the WILSON CUTTERS last longer than the cutters of other Reamers. You have seen that the WILSON CUTTERS close together more completely, which throws the cutting ends further toward the center, and gives them greater clearance in the casing. Now this *greater clearance* enables the operator to use cutters which have been worn off short, and still they will go down the casing, even when well dressed out, and the cutters will still ream the hole big enough to let the casing follow.

THE WILSON UNDER-REAMER CUTTERS will save you 40% of the new cutter expense.

The dotted lines show how much of the WILSON CUTTERS may be used.



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removed, and then they blame the Under-Reamer and say it is no good. Now those same operators would probably be very painstaking in the care they would exercise in cleaning and oiling thoroughly a good buggy, if it had been on muddy roads, before placing it in the buggy shed. Now why is it that they will not give an Under-Reamer as good care as they would a buggy? Both are intended to be used in the mud, but the Under-Reamer probably costs two or three times as much as the buggy, and it is far more important that it should be in good working order.

Take care of your Under-Reamer if you want it to do good work. When you are through with it for a time, clean it thoroughly and remove the safety bolt and screws, and thoroughly lubricate them before putting the Reamer away in a toolhouse. The next time you have an occasion to use it, you will have no trouble to get it apart.

Keep the block screws well lubricated with tallow or any other hard grease.

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KEEP THE UNDER-REAMER CUTTERS DRESSED OUT FOR CLEARANCE.

Every driller knows that an Under-Reamer with its cutters dressed out for clearance runs better, will ream faster, the casing will follow better, and the Reamer will not "stick" and "plunge." Still how often do we see Under-Reamer cutters which are "dubbed" off at the ends until the Reamer could do nothing else but wedge or plunge in a shell with its cutters in such a condition. When a Reamer is in that condition the principal danger in running an Under-Reamer commences, and it wears out many times as fast. A much greater strain is thrown on the cutters, on the "T," and on the spreading bearings. It is very poor practice to run an Under-Reamer in that condition.

OUR PATENTS.

The WILSON UNDER-REAMER PATENT covers the following forms of construction absolutely:

First, an Under-Reamer Body terminating in prongs: said prongs terminating in lugs or projections forming spreading bearings to hold the cutters apart.

Second, an Under-Reamer Body terminating in prongs forming a fork, said prongs ter-

minating in lugs or projections having beveled-end faces for expanding the cutters.

Third, an Under-Reamer Body terminating in prongs forming a fork, said prongs having dove-tail shoulders on their inner faces for the purpose of holding the cutters in place.

Fourth, an Under-Reamer Body terminating in prongs forming a fork, said prongs having dove-tail shoulders on their faces, and having projecting lugs or wedges for expanding the cutters, and with spreading bearings to hold the cutters apart.

Fifth, an Under-Reamer Cutter having shank with shoulders on said shank, and body of cutter having shoulders projecting at right angles with the shank, with bearings on the inner faces of said shoulders.

Our patents cover not only the above-mentioned features, each one of them separately, but also in the various combinations of those features. So completely does our patent cover the invention, that it is impossible for anyone to manufacture an Under-Reamer Body which terminates in prongs forming a fork, which prongs terminate in lugs or wedge-like projections, and with or without the dove-tail shoulders on the inner surfaces, and with or without the beveled-end bearings for expanding the cutters, without infringing the WILSON PATENT. Nor can an Under-Reamer be made terminat-

ing in prongs forming a fork, even though the prongs do not have the projecting ends or wedges for expanding the cutters and holding them apart, and at the same time have dove-tail shoulders on the inner faces of the prongs, without infringing the WILSON PATENT.

Again, no one else can manufacture an Under-Reamer cutter having a shank with dove-tail shoulders on said shank, the body of which cutter extends at right angles on either side of the shank forming shoulders, and having bearing faces on inner sides of those shoulders, without infringing the WILSON PATENT.

INSTRUCTIONS FOR DRESSING UNDER-REAMER CUTTERS.

The following instructions are given by one of the best Oil Well Tool blacksmiths in the State of California, and a man who has spent a lifetime in working and tempering all grades of Tool Steel.

First, care should be exercised to heat no more of the cutting end of the reamer-cutter than is necessary to enable the Tool Dressers to upset the cutter and dress it out to size. With the standard grade of bit steel, this heat should not be above a cherry red.

Second, after the cutter has been dressed to size, allow the cutter to cool off thoroughly in

the air through and through—do not cool it in water.

Third, after the cutter has been cooled off thoroughly through and through—not only on the outside, but on the inside as well—give the cutter another heat, or the tempering heat. Heat the lower end of the cutter only, and that up to a cherry red—no hotter than a cherry red—then plunge the entire cutter completely under water and allow it to remain completely submerged until it is thoroughly cold.

Now if the above instructions are observed, the Tool Dressers will have no trouble from "cracked" or "split" Under-Reamer Cutters, and the cutters will be sufficiently hard.

Many Tool Dressers do not realize that an Under-Reamer Cutter, which has been in a fire for a good while and heated thoroughly through and through—not only on the outside, but clear through into the center—when dressed to size with that heat, and when it has cooled to a low cherry red on the outside, that the inside of that cutter may still be up to a white heat. If it is dipped under water in that condition, the outside is chilled, but the inside of the cutter will continue to shrink as it cools off long after the outside of the cutter has been black. This interior shrinkage is the cause of the "cracking" or "splitting" of Under-Reamer Cutters when tempering. Any high carbon Tool Steel will

do the same thing under those conditions "Cracked" or "split" cutters are very, very seldom the fault of the steel—the fault lies with the Tool Dressers.

Tool Dressers know that it is the large cutters which crack or split when tempering. Why don't the small cutters do so?

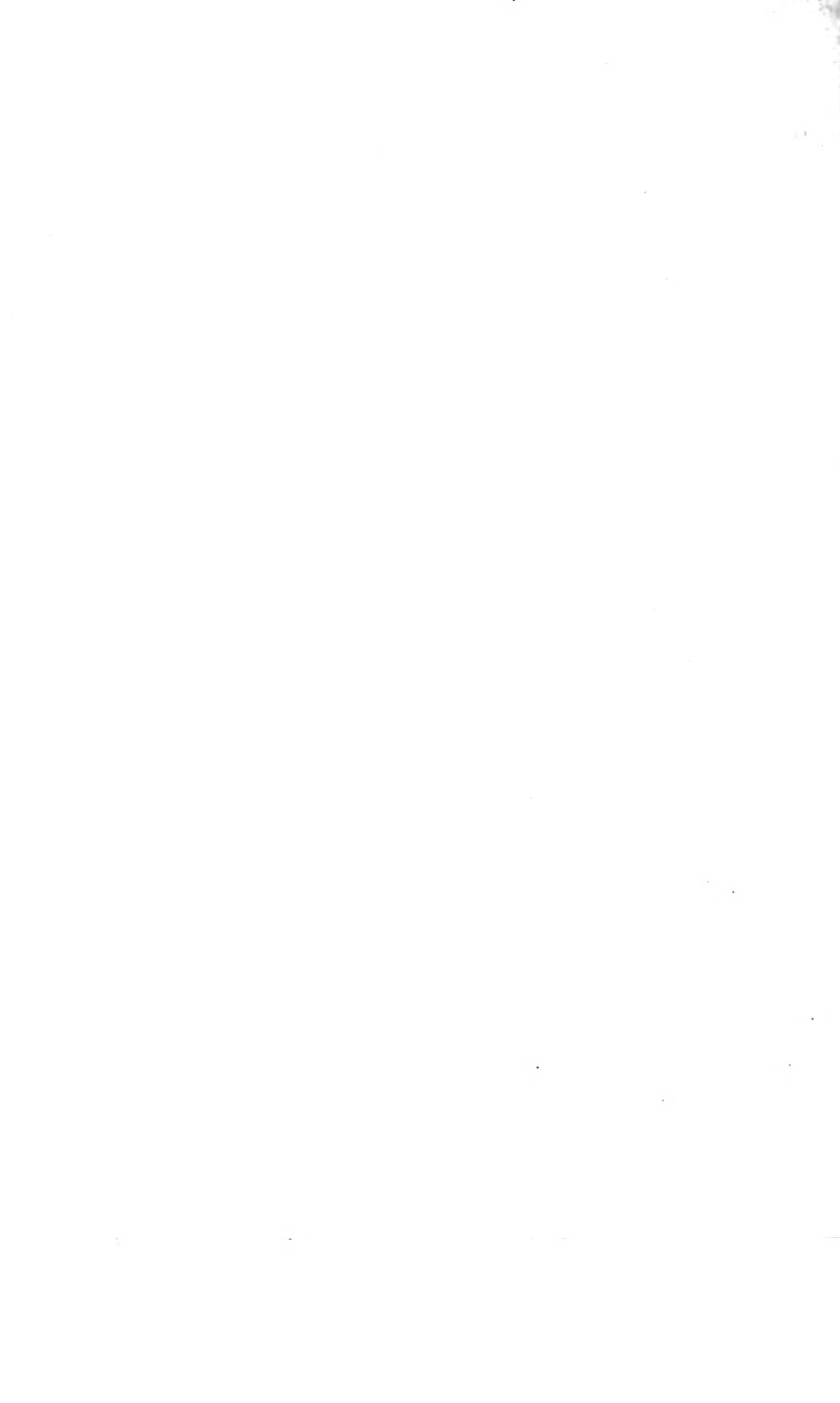
Simply because they cool thoroughly quicker and consequently more uniformly. When they have cooled on the outside, the interior will be very nearly cool also. Hence, they do not shrink irregularly and split as the large cutters do, when dipped in water while hot clear through. If the breakage was due to the steel, the small cutters also would crack or split when tempering.

**PRICE LIST
WILSON UNDER-REAMERS.**

Size.	Pin.	Price.
4½"	1½ x 2½-8	\$125.00
5"	2 x 3-7	140.00
5¾"	2 x 3-7	200.00
6"	2 x 3-7	215.00
6¾"	2 x 3-7	220.00
7"	3 x 4-7	225.00
7¾"	3 x 4-7	250.00
8"	3 x 4-7	265.00
9"	3 x 4-7	275.00
9¾"	3 x 4-7	300.00
10"	3 x 4-7	310.00
11"	3 x 4-7	325.00
11¾"	3 x 4-7	350.00
12½"	3 x 4-7	385.00
13"	3 x 4-7	425.00

Size.	Price Per Set.
4½"	\$25.00
5"	30.00
5¾"	30.00
6"	32.00
6¾"	35.00
7"	36.00
7¾"	40.00
8"	42.00
9"	45.00
9¾"	48.00
10"	50.50
11"	52.50
11¾"	55.00
12½"	58.00
13"	60.00

F. O. B. Los Angeles.



**Complainant's Exhibit Copy of Letter of Notice to
Defendant.**

(Copy)

PhoneA-3212.

Federal Court Practice.

Patent Causes.

Patents.

Trade Marks.

Copyrights.

RAYMOND IVES BLAKESLEE, Lawyer and
Patent Solicitor.

728-729-730 California Building.

Cor. So. Broadway and Second St.

Los Angeles, Cal., Feb. 3, 1913.

(Registered, Return
Receipt Demanded.)

Union Tool Company,
Palmetto & Mataeo Sts.,
Los Angeles, Cal.

Gentlemen:

My client, Elihu C. Wilson, patentee and owner of U. S. Letters Patent No. 827,595, issued to him July 31, 1906, for Underreamers, has instructed me to again call to your attention and give you notice of the issuance to him of said Letters Patent No. 827,595; and further has instructed me to give you this notice, in addition to notice heretofore given you, that you are infringing said Letters Patent No. 827,595, in and by the manufacture, use, sale and leasing of underreamers.

My said client has further instructed me to call upon you to desist from any and all acts of infringe-

ment of said Letters Patent, and to account to him for all damages and profits for present and past infringement of said Letters Patent and flowing from the manufacture, use, sale and leasing by you of any and all such underreamers.

It is further requested that you signify in the immediate future, in writing, that you will comply with the notice and demand, herein made, and will respect said Letters Patent and the monopoly therein and thereby conveyed to my client. Unless you so signify in writing, to my client or myself within ten days from date, your failure so to do will be construed as an intention to continue said infringing acts and to refuse to comply with the notice and demand herein given and made. In the [827] event Union Tool Co. #2.

of your failure to comply with the notice and demand herein given and made, suit will be commenced against you, and the court of competent authority will be petitioned for an injunction restraining you from further acts of infringement of said Letters Patent, and for an accounting of all profits and damages in the premises, and such further relief as may be proper.

This notice is directed to you, and to your officers, attorneys, agents, workmen and employees.

Very respectfully,
RAYMOND IVES BLAKESLEE.

RIB/DC.

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(Name of Sender)	(livery.
Street and Number,)	
or Post Office Box,)	728-29-30 Cal. Bldg.

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CALIFORNIA.

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The postmaster who delivers the registered article must see that this card is properly signed, legibly postmarked, and mailed to the sender without envelope or postage.

(Over)

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Received from the postmaster registered article, the original number of which appears on the reverse side of this card.

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(To be filled in by person signing receipt.)

When delivery is made to an agent of the address-

see, both addressee's name and agent's signature must appear in this receipt.

UNION TOOL CO.,

Signature or name of addressee.

FIELD,

Signature of Addressee's agent.

(Postmark) : Los Angeles, Cal., Feb. 4, 7:30 P. M.

[828]

A registered article must not be delivered to anyone but the addressee or the person in whose care it is addressed, except upon addressee's written order or a written order from the sender transmitted by the mailing postmaster and duly verified.

When the above receipt has been properly signed, it must be postmarked with the name of delivering office and actual date of delivery and mailed to its address, without envelope or postage.

Separate slip.

No. 69,508.

Receipt for registered mail.

(Postmark)

Los Angeles, Cal.,

Feb. 3, 1913.

Registered.

Return Receipt Demanded.

This receipt represents a letter or parcel registered at the post office indicated by postmark. Inquiries concerning registered mail should state the number of the article, date of its registration, and the names and addresses of the sender and addressee. The sender of the article represented by this receipt should write the name and address of the addressee on the reverse side.

1 class postage prepaid. Postmaster, per C.

[Endorsed]: (714) U. S. District Court, Southern District of California, Southern Division. *Wilson v. Union Tool Co.* In Equity, A-4. Complainant's Exhibit Copy of Letter of Notice to the Defendant. Los Angeles, March 24, 1914. I. Benjamin, Notary Public. [829]

Complainant's Exhibit Wilson File Wrapper and Contents.

2-390.

UNITED STATES OF AMERICA.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

To all to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the Records of this Office of the File Wrapper and Contents in the matter of the

Letters Patent of

Elihu C. Wilson,

Number 827,595,

Granted July 31, 1906,

for

Improvement in Underreamers.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington, this 18th day of March, in the year of our Lord one thousand nine hundred and fourteen and of the Independence of the United States of America the one hundred and thirty-eighth.

[Seal]

J. T. NEWTON,

Acting Commissioner of Patents. [830]

NUMBER (SERIES OF 1900).

289,380

1905.

DIV. 38

(EX'R'S BOOK) 219-1

PATENT No. 827,595.

Name—Elihu C. Wilson.

Of Bakersfield.

County of—

State of California.

Invention—Underreamer.

Division of App., No. , filed

PARTS OF APPLICATION FILED	ORIGINAL.	RENEWED.	
}	Petition	Nov. 28, 1905	, 190
	Affidavit	“ “ , 1905	, 190
	Specification	“ “ , 1905	, 190
	Drawing 2 shts.	“ “ , 1905	, 190
	Model or Specimen	, 190	, 190
	First Fee Cash, \$15.00		
		Nov. 28, 1905	, 190
	“ “ Cert.	190	, 190
	Appl. filed complete	Nov. 28, 1905	, 190
	Examined A. P. Shaw ex.	July 10, 1906	, 190
	Countersigned, W. W. MORTIMER,		, 190
	For Commissioner.	For Commissioner.	
	Notice of Allowance,	July 12, 1906	, 190
	2 Cert.		
	Final Fee Cash Dated	June 13, 1906	, 190
	“ “ Cert. \$20	June 18, 1906	, 190
	Patented—July 31.		, 1906
	Associate Attorney.		

Attorney—JAMES R. TOWNSEND,

430 Bradbury Bldg.,

Los Angeles, Cal.

3 Name— Serial Number—
Patent No. — Date of Patent. [831]

\$ 15 RECEIVED.

NOV. 28, 1905. Ck.

CHIEF CLERK. J.

U. S. PATENT OFFICE.

James R. Townsend.

289,380 Paper No. 1/2

Townsend Bros.

MAILED

NOV. 22, 1905.

James R. Townsend.

Los Angeles, Cal.,

Elihu C. Wilson,

Underreamer.

HON. COMMISSIONER OF PATENTS.

Sir: We herewith hand you Petition and Power of Attorney, Specification, Oath and two sheets of Drawings, in the matter of the above-entitled application for U. S. Patent.

Also enclosed find our check for \$15.00, in payment of filing fee thereon.

Kindly file, acknowledge receipt, and oblige,

Yours respectfully,
JAMES R. TOWNSEND.

ADAM. [832]

MAIL ROOM.

NOV. 28, 1905.

U. S. PATENT OFFICE. ~~Townsend Bros.~~

REGISTERED ATTORNEYS.

No. ~~370.~~

in the

United States Patent Office

James R. Townsend ~~Francis M. Townsend.~~

Los Angeles, California.

PETITION AND POWER OF ATTORNEY.

To the Hon. Commissioner of Patents.

Your petitioner Elihu C. Wilson whose Post Office address is Bakersfield, Kern County, California, a citizen of The United States residing at Bakersfield in the county of Kern, and State of California, prays that letters patent may be granted to him for the ~~improvement in~~ Underreamer set forth in the annexed specification and he hereby appoints ~~the~~ firm of ~~TOWNSEND BROS.,~~ the individual members of which firm are James R. Townsend ~~and Francis M. Townsend~~ of Los Angeles, California, his attorney with full power of substitution and revocation to prosecute this application, to make alterations and amendments therein, to receive the patent and to transact all business in the PATENT OFFICE connected therewith.

ELIHU C. WILSON.

SPECIFICATION:

To all Whom it May Concern:

Be it known that I, Elihu C. Wilson, a citizen of the United States, residing at Bakersfield, in the County of Kern, and State of California, have in-

vented a new and useful UNDERREAMER, of which the following is a specification. [833]

Objects of this invention are to provide an underreamer of superior strength and of superior width and expansion of cutters so as to enable reaming as great a portion of the circumference of the hole as possible at each stroke; to ensure greater safety against losing the cutters from the body while reaming; to avoid the necessity of a middle joint in the mandrel or reamer body.

Insert E' /E'

By this invention it is possible to increase the strength of the cross or tee which suspends the cutters. In this invention a cross or tee formed of a single forging is provided for suspending the cutters.

Another decided advantage is simplicity and convenience of attaching and removing the cutters and suspending devices from the reamer body.

Another advantage is facility of collapsing the cutters I so construct the mouth of the underreamer as to dispense with stock between the collapsed cutters, thus enabling the cutters to close together. This feature makes extreme expansion possible, and makes the use of maximum amount of stock in shanks of cutters possible, thus insuring maximum strength of cutters.

The accompanying drawings illustrate the invention:

Figure 1 is a view of the underreamer in a casing just before it has passed through the shoe of the casing, the parts being collapsed.

Fig. 2 is a view looking at the bottom of Fig. 1.

Fig. 3 is a view of this newly invented underreamer in a well, the same having just passed through the casing shoe, and expanded for reaming the hole below; portions are shown in mid-section.

Fig. 4 is a view looking at the bottom of Fig. 3.
[834]

Fig. 5 is a view of the reamer body at right angles to Figs. 1 and 2.

Fig. 6. is a view looking at the bottom of Fig. 5.

Fig 7 is a front view of a cutter detached.

Fig. 8 is an edge view of a cutter at right angles to Fig. 7.

Fig. 9 is a view of the inside or back of the cutter.

Fig 10 is a view looking down on the top of the cutter.

Fig. 11 is a view of the cross.

Fig. 12 is a view of the cross at right angles to Fig. 11.

Fig. 13 is a side view of the spring seat block detached.

Fig. 14 is a bottom view of the same.

1 designates a hollow body of an underreamer terminating in ~~forks 2 which terminate in downwardly-projecting lugs 2'~~ ^{to spread the cutters} ~~downwardly-projecting lugs 2'~~ ^{on the sides of said cutters.} ~~3 designates ways formed by the forks.~~ 4 designates the cutters which are interchangeable; 4¹, the cutter shank; 4², bearing shoulders of the cutters to engage inside the ways ~~6~~; 4³, expansion bearing faces of the cutters, [^]

5 is a cross; 5' the stem of the cross, and 6 the spring which actuates the cross. The parts 5, 5', constitute spring-actuated means for actuating the cutters to expand the same.

7 is a block forming a seat for the spring 6. One or more dowel pins 8 may be provided as means for holding the block or spring seat 7 in place. 9 designates the spreading bearings, for holding the cutters 4 apart, and 10 the down-thrust bearings for the cutters. 11 is a detachable cross-piece in the form of a bolt secured by a nut 12. 13 is an angular socket in the outer face of one of the forks around the bolt-hole 14 is said fork. The nut 12 is conformed to the angular socket, and the bolt 11 is provided with an angular socket 15 in its head to receive a:

-3-

wrench, not shown, for screwing the bolt into the nut.

The expansion bearing faces 4³ terminates ^{Per B} at their upper ends in rounded corners or " " bearings 16 to ride more readily over the beveled end faces 17 of the downwardly-projecting lugs 2', to engage said bearings for expanding the cutters, 18 designates recesses in the inner faces of the cutters for engaging the ends of the cross 5.

19 and 20 indicates the usual tension nut for the spring 6 and the cotter-pin for securing the same.

To assemble the underreamer, the block 7 will first

be placed on the stem 5' of the cross 5, and the spring 6 is then adjusted and secured in place by the nut 19 and cotter-pin 20. Then the cutters are placed on the ends, respectively, of the cross 5 which seat in the recesses 18 therefor. Then the parts thus assembled are inserted into the hollow mandrel and brought into the position shown in Fig. 3, whereupon the dowel-pins 8 are inserted and the cross-piece formed of the bolt 11 is then inserted; the nut 12 is placed in its angular socket 13, and the bolt or cross-piece 11 is then screwed home. The underreamer is then in condition for operation.

To use the underreamer, the cutters will be drawn down below the downwardly-projecting 2', thus collapsing the same into the position shown in Fig. 1, whereupon the underreamer will be inserted into the pipe or casing in the usual manner and allowed to descend. When it has passed through the shoe, as shown in Fig. 3, the spring operates in the usual manner to draw the cross 5 up, thus bringing the cutters into the expanded position shown in Fig. 3. The rounded shoulders 16 ride readily over the beveled faces 17, and the upper ends of the cutter-stems seat against the down-thrust bearings 10, and the bearing shoulders 4² of the cutters engage the ways 3 of the fork prongs or members 2, thereby being solidly held during the operation of underreaming. The spreading bearings 9 of the lugs 2' engage the expansion [836] bearing-faces 4³ of the cutters at the same time so that the tool is practically a unit during the operation of underreaming.

30 designates the usual shoulders on the cutters for

drawing the same in when the tool is removed through the pipe or casing 40.

It is advisable that the lower ends of the forks 2 should not form down-thrust bearings for the cutters as there would otherwise be a tendency of crystallization of said forks, which is avoided by making the down-thrust bearings at 10 only.

The cross-piece 11 serves as a brace for the prongs of the fork, and prevents accidental removal of the cutters and tee or cross 5.

Insert
 D
 or B
 " "
 sub D
 " "
 " "
 " "

What I claim is:-

1. An underreamer ^{body} having projecting lugs at its mouth for expanding cutters.
2. An underreamer ^{body} provided with upper and lower bearings for its expanded cutters, the lower bearing being formed of lugs projecting at the mouth of the reamer.
3. An underreamer ^{body} having cutter bearings for the down-thrust and bearings for expanding the cutters, the latter being formed of projecting lugs at the mouth of the reamer.
4. An underreamer ~~having~~ ^{prongs forming} body terminating in a fork ^{prongs forming} having shoulders on their inner faces ^{prongs forming} to form ways for the cutters.
5. A hollow underreamer ^{prongs forming} body terminating in a fork ^{prongs forming} having shoulders on the inner faces to form ^{prongs forming} ways for the cutters, cutters in said ways, a cross in said hollow body for operating said cutters, a spring for operating the cross, a block in the body to form a seat for said spring, and one or more dowel pins securing the block in place.
6. A hollow underreamer body, cutters, a cross inside the hollow body for operating said cutters, a spring for

Insert B ²	operating said cross, a block in said body forming a seat for said spring, and one or more dowel pins for holding the block in place. ^{B²}
per B	7. A hollow underreamer body provided with cutter ways and bearings, cutters in said ways and engaging said bearings, spring-actuated means for actuating said cutters, and a block secured in said hollow body and extending below said bearings to hold the upper ends of the said cutters apart.
per B	7. 8. A hollow underreamer body ^{terminating in prongs forming a fork and} provided with ways and down-thrust bearings for cutters, cutters in said ways engaging said bearings, a cross for operating said cutters, a spring for actuating said cross, a block forming a guide for the stem of the cross, and a seat for the cross-actuating spring and projecting below the down-thrust bearings to hold the upper ends of the cutters apart, and means for holding the block in the reamer body. ^{B³}
Insert B ³	8. 9. A hollow underreamer body ^{prongs forming} terminating in a fork, ⁱⁿ cutters held-by ^{ways} said fork, means for operating the cutters, and a detachable cross-piece connecting the ends of the fork. ^{B⁴}
per B Insert B ⁴ per D per E	9. 10. An underreamer body ^{prongs forming} terminating in a fork, ^{B⁴} which forms cutter ways and terminates in downwardly-projecting lugs, and cutters mounted between the prongs of said fork and having shoulders inside the fork and faces to bear on the projecting lugs.
per D	10. 11. An underreamer having lugs at the ^{sides of the} lower end of its ^{B⁴} body to hold the cutters apart.
per B	12. An underreamer body terminating in a fork and a cross-piece forming a brace for the prongs of the fork. 13. An underreamer body terminating in a fork, cutters and means for suspending the same in said body, and a cross-piece extending between the prongs below the suspending means. 14. An underreamer body having down-thrust bearings and forks below said bearings, cutters held by said forks and

provided with shoulders to engage the down-thrust bearings, and means for holding the cutters expanded in position with their shoulders in engagement with said down-thrust bearings.

per B prongs forming
 ¶ 15. An underreamer body terminating in a fork having beveled faces at the ends of its prongs, cutters having shoulders to ride over said beveled faces, and means for suspending said cutters in said body.

In Testimony Whereof, I have hereunto set my
 Bakersfield,
 hand at Los Angeles, California, this 20th day of
 November, 1905.

ELIHU C. WILSON.

In presence of

H. I. TUPMAN.

T. E. KLOPSTEIN.

OATH.

State of California,

Kern,

County of Los Angeles,—ss.

Elihu C. Wilson, the above-named petitioner, being duly sworn, deposes and says that he verily believes himself to be the original, first and sole inventor or discoverer of the ~~improvement~~ Underreamer described and claimed in the annexed specification; that he does not know and does *no* believe that the same was ever known or used before his invention or discovery thereof; or patented or described in any printed publication in any country before his invention or discovery thereof, or more than two years prior to this application; or in public use or on sale

in the United States for more than two years prior to this application, and that no application for patent on said improvement has been filed by him or his legal representatives or assigns, in any foreign country, except as follows:

~~And said states that he is a citizen of the United States and resident of in the County of Los Angeles and State of California. [839]~~

And said Elihu C. Wilson states that he is a citizen of the United States and resident of Bakersfield in the County of Kern and State of California.

ELIHU C. WILSON.

Subscribed and sworn to before me this 20th day of November, 1905.

[Seal]

H. I. TUPMAN,

Notary Public in and for the County of Kern, State of California.

Notary Public in and for the County of Los Angeles, State of California.

U. S. Patent Office.

Dec 27, 1905.

Division 38.

MAIL ROOM.

Dec. 26, 1905.

289,380 Paper No. 1

U. S. PATENT OFFICE.

Amdt. A

IN THE UNITED STATES PATENT OFFICE.

Division 38

Room No. —

Paper No. 1

MAILED

Elihu C. Wilson,

To Patent Office

Underreamer,
Filed Nov. 28, 1905,

Dec. 19, 1905.

Ser. No. 289,380.

James R. Townsend.

Elihu C. Wilson.

1035

Los Angeles, Cal., Dec. 19, 1905.

Hon. Commissioner of Patents,
Sir:-

Upon further consultation with the applicant before receiving action from your Office, please add the following claim in the above mentioned application for patent; namely:-

sub D6
A'
per C
" "
Insert
=6

~~-18-16. An underreamer having a body terminating in a fork, and cutters suspended between the prongs of the fork, the ends of said prongs being adapted to spread the cutters apart,~~
constructed and arranged to wedge between

Very respectfully,
James R. Townsend,
Atty. for Wilson.

Approved
E. C. Wilson

-C-

Div. 38. Paper No. 1.
Address All communications —ing this application should give the serial number, date of filing, title of invention, and name of applicant.
"The Commissioner of Patents, Washington, D. C.,"
and not any official by name.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

Washington, D. C., January 9, 1906.

MAILED " " "

Elihu C. Wilson,
Care James R. Townsend,
#430 Bradbury Bldg., Los Angeles, Cal.

Please find below a communication from the
your
EXAMINER in charge of the application of for
"Underreamer," filed November 25, 1905. Serial
No. 289,380.

F. I. ALLEN,
THOMAS EWING,
Commissioner of Patents.

The shape of the ways 3 should be illustrated showing how the guides 4² operate.

Claim 1 is rejected on—

Swan, 683,352, Sept. 24, 1901, Artesian & Oil Wells,
Reamers.

Claim 2 to 6, inclusive, are rejected on—

Double, 748,054, Dec. 23, 1903 (Same class).

There is considered to be no invention in substituting dowel-pins for screw-threads to hold in the block, as they are both within the knowledge of an ordinary mechanic.

Claims 7 to 14, inclusive, are rejected on—

Double, 796,197, Aug. 1, 1905 (Same Class).

Claim 16 is objected to as it differs from the patents to Double, cited, only in statements of function.

Claim 15 is allowed.

A. P. SHAW,
Ex.

MEP. [841]

MAIL ROOM
MAR 12 1906
U.S. PATENT OFFICE

U.S. Patent Office
MAR 14 1906
DIVISION 38

289,360 Paper No. 4
Amdt B

IN THE UNITED STATES PATENT OFFICE.

Elihu C. Wilson,
Underreamer,
Filed Nov. 25, 1905,
Ser. No. 289,380.

MAILED
To Patent Office,
MAR 6, 1906
James R. Townsend

Div. 38
Room 378
Paper #2

Los Angeles, Cal., March 5, 1906.

Hon. Commissioner of Patents,

Sir:-

Office letter of January 9, 1906,

and the patents referred to have been considered.

Page 2, last line, cancel "forks 2 which" and substitute - - prongs 2 forming a fork; said prongs having shoulders 2" on their inner faces to form ways 3 for cutters. Said prongs are provided with an - - Before the period insert - - to spread the cutters apart. - - The clause as amended will read as follows: - - 1 designates a hollow body of an underreamer terminating in prongs 2 forming a fork; said prongs having shoulder 2" on their inner faces to form ways 3 for cutters. Said prongs are provided with and terminate in downwardly-projecting lugs 2' to spread the cutters apart. - -

Page 3, line 1, cancel "3 designates ways formed by the forks." Line 4, change the period to a comma and add - - on the sides of said cutters. - - Line 20, after "corners" insert - - or bearings - -; line 21, before "for" insert - - to engage said bearings - -.

Claims 1 and 2, line 1, after "underreamer" insert - - body - - It is requested that claims 1 and 2 be reconsidered and allowed for the reason that the patents do not show any lugs at the mouth of the underreamer body for expanding the cutters. The term "lugs" can only be applied to projecting parts, and no parts

are shown in the patents which come within the definition of the term "lugs".

Claim 3, line 1, after "underreamer" insert - - body -
-; line 3, before "projecting" insert - - downwardly - -; after
"reamer" insert - - body - -.

Reconsideration and allowance of this claim is requested in view of the foregoing.

Claim 4, line 1, cancel "having a"; after "in" insert
- - prongs forming - -; line 2, after "fork" insert - - , said
prongs having shoulders on their inner faces - - . The claim as
amended reads:

- - 4. An underreamer body terminating in prongs forming a fork, said prongs having shoulders on their inner faces to form ways for the cutters.- -

Claim 5, line 1, after "in" insert - - prongs forming
-; line 2, for "forming" substitute - - having shoulders on the
inner faces to form - - .

Claim 6, before the period insert - - , said blocks and
pins being located entirely above the head of the cross. - -

Cancel Claim 7.

Claim 8 renumber as 7. Line 1, after "body" insert - -
terminating in prongs forming a fork and - -; line 6, after
"spring" insert - - its lower end terminating above the head of
the cross - - .

Claim 9 renumber as 8. Line 1, after "in" insert - -
prongs forming - -; before line 2 insert - - said prongs having
shoulders on their inner faces to form ways, - -; line 2, substi-
tute - - in - - for "held by"; substitute - - ways - - for "fork"
The claim as amended reads:

- - 8. A hollow underreamer body terminating in prongs forming a fork, said prongs having shoulders on their inner faces to form ways, cutters in said ways, means for operating the cutters,

and a detachable cross-piece connecting the ends of the fork. -

Claim 10 renumber as 9. Line 1, after "in" insert - -
prongs forming - -; after "fork" insert - - and provided with
26 shoulders on the inner faces of the prongs - -; line 2, change
"forms" to - - form - -.

Claim 11. renumber as 10. Reconsideration and allowance
of this claim is requested in view of the fact that none of the
patents show the lugs called for in this claim, it being under-
stood that the term "lugs" is limited to projecting devices, none
of which for this purpose is shown in the patents.

per C Cancel claims 11, 12, 13, 14,

Claim 15 renumber as 11. Line 1, after "in" insert - -
prongs forming - -.

Add the following claims:

26 - - 12. An underreamer body terminating in prongs
forming a fork, the ends of said prongs being provided with lugs
to spread the cutters apart.

13. An underreamer body terminating in prongs forming
a fork, said prongs having shoulders on the inner faces to form
ways for the cutters, and said prongs terminating in lugs to act
as spreaders for the cutters.

14. A hollow underreamer body terminating in prongs
forming a fork, said prongs terminating in lugs for spreading the
cutters, said lugs having beveled ends to engage bearings on
cutters to expand cutters.

15. An underreamer body terminating in prongs forming
a fork, said prongs terminating in lugs or projections, said lugs
having beveled faces or bearings to expand the cutters, and also
faces or bearings for the cutters to rest on after they have
expanded to a normal position for reaming.

16. An underreamer cutter having shoulders or projections on its sides to form bearings to rest on the lugs of the underreamer body.

17. An underreamer cutter having shoulders to bear on the lugs of the underreamer body, and having shoulders or projections on its sides to bear against the shoulders on the inner faces of prongs of underreamer body when cutters are expanded to normal position for reaming. --

It is believed that the foregoing is in accordance with the views of the Examiner as expressed in a private interview with the inventor, and the application will now be found in condition for issue.

Favorable consideration is therefore requested.

Very respectfully,

JAMES R. TOWNSEND,

Attorney for Wilson.

JRT-J.

Div. 38
Address

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

Paper No. 4.

All communications—*ing* this application should give the serial number, date of filing, title of invention, and name of applicant.

DEPARTMENT OF THE INTERIOR.
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C., March 21, 1906.

MAILED

" " "

Elihu C. Wilson,

Care J. R. Townsend,

Bradbury Bldg., Los Angeles, Cal.

Please find below a communication from the

your

EXAMINER in charge of the application of for

“Underreamer,” filed November 28, 1905, [845]
Serial No. 289,380.

F. I. ALLEN,
THOMAS EWING,
Commissioner of Patents.

In response to the communication filed March 12, 1906:

Claims 1 to 4, inclusive, are rejected on Double, 748,054, of record, which shows shoulders on the inner faces for guiding the cutters.

Claim 5 is rejected on Double, 748,054, in view of Double, 796,197, of record. The use of dowel pins for the bolt of Double, or the screw-threads shown in—

Swan, 717,469, Dec. 30, 1902, (Same Class); is not considered patentable.

Claim 8 is rejected on Double, 748,054 in view of Double, 796,197, of record, showing a cross-piece at the end of the forks.

Claim 9 is objected to as it is not clear to what “which” in line 2 refers. If “forms” is changed “terminates” should also be changed.

Claim 10 is rejected on Double, 748,054, of record, as not distinguishing therefrom.

Claims 16 and 17 are rejected on Double, 748,054, of record. Furthermore, the article of manufacture cannot be limited by the device with which it is used.

Original claim 16 had not been amended and the objection made in the last Office letter is repeated.

Attention is called to the fact that claims 11, 12, 13, and 14, are directed to be cancelled. In view of other portions of the amendment only original claims 12, 13,

1042

Union Tool Company vs.

and 14 have been canceled.

Claims 6, 7, 11, 12, 13, 14, and 15, are allowed.

A. P. SHAW,

M. E. P.

Ex. [846]

U. S. Patent Office.

MAR. 28, 1906.

DIVISION 38.

MAIL ROOM.

289,380 Paper No. 5.

MAR. 27, 1906.

Amdt. C.

U. S. PATENT OFFICE.

IN THE UNITED STATES PATENT OFFICE.

MAILED

To Patent Office

Mar. 21, 1906.

James R. Townsend.

Div. 38

Room 378

Paper #3

Elihu C. Wilson,
Underreamer,
Filed Nov. 25, 1905,
Serial No. 289,380.

Los Angeles Cal., March 12, 1906.

Hon. Commissioner of Patents,

Sir: It is noted in my amendment dated at Los Angeles, March 5, 1906, page 3, line 9 should read:
—Cancel claims 12, 13, and 14—, therefore please
correct said line to read accordingly.

Claim 16 was overlooked in said amendment there-

fore renumber said claim 16 to be 18.

I amend said claims as follows: Line 3 of the claim
change "adapted to spread" to—constructed and ar-
ranged to wedge between —. Last line, cancel
"apart." This claim now clearly sets forth the ar-
rangement of the prongs with relation to the cutters
and no reason is seen why it may not be allowed.

Respectfully submitted,
JAMES R. TOWNSEND,
Attorney for Wilson.

AHM-M.
A. H. Merrill. [847]

Div. 58.
Address
"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

Paper No.
All *communications* this application
should give the serial number, date of
filing, title of invention, and name of
applicant.

DEPARTMENT OF THE INTERIOR.
UNITED STATES PATENT OFFICE.

WASHINGTON, D. C., April 3, 1906.
MAILED " " "

Elihu C. Wilson,
Care J. R. Townsend,
Bradbury Bldg., Los Angeles, Cal.

Please find below a communication from the
your
EXAMINER in charge of the application of for
"Underreamer," filed November 28, 1905, Serial
No. 289,380.

F. I. ALLEN,
THOMAS EWING,
Commissioner of Patents.

In response to the communication filed March 27, 1906;

Claims 12, 13, and 14 were canceled in view of the amendment of March 12, 1906.

Claim 18 as amended is objected to as being indefinite on account of the phrase "constructed and arranged." Such a phrase does not define any structure.

A. P. SHAW,
Ex.

M. E. P. [848]

U. S. Patent Office.

Apr. 17, 1906.

DIVISION 38.

MAIL ROOM.

289,380 Paper No. 7

APR. 16, 1906.

Amdt. D.

U. S. PATENT OFFICE.

IN THE UNITED STATES PATENT OFFICE.

MAILED

To Patent Office

Apr. 10, 1906.

James R. Townsend.

Elihu C. Wilson,

Div. 38

Underreamer,

Room 378

Filed Nov. 28, 1905,

Paper No. 6.

Ser. No. 289,380.

Los Angeles, Cal., April 9, 1906.

Hon. Commissioner of Patents,

Sir: Office letter of March 21, 1906, and the patents referred to have been considered. Amend the specification as follows:

Page 3, after line 4 insert:

—The inner faces of the prongs 2 are parallel, and the sides or shoulders 2'' which form the ways 3 are also parallel; the cutter-shank 4' and its bearing shoulders 4^u are straight; that is to say, the sides or edges thereof are parallel and fit the ways 3.—

D'
per F

4²

After line 12, Page 3, insert:

—The down-thrust bearings 10' are in the nature of shoulders formed by the edges of the forks at the base of the lugs 2'. The prongs 2 of the body are of substantially one thickness throughout, excepting that they are reduced at their lower ends to form lugs for spreading the cutters 4 apart. The edges of the lugs 2' form the spreading bearings 9, and the prongs terminate abruptly in the shoulders 10' at the base of the lugs 2''. This construction affords the necessary operative structure with maximum strength for minimum weight of body.—

D²

At the end of page 5 add:

—It is to be noted that by the construction shown the cutters are quickly expanded at the initial upward movement of the same [849] after escaping the shoe of the casing 40; and that immediately thereafter the cutters are solidly held in the straight and parallel ways 3, and that when the cutters are fully drawn up they seat on the down-thrust bearings 10 and the spreading bearings 9, while the shanks are rigidly held throughout their length. Said spreading bearings are on the lugs 2' which constitute wedges

D³

for wedging the cutters apart, and said bearings are at the sides of the lower ends of the body, thus engaging the outer edges of the cutters to hold the cutters apart, and leaving an open space between the middle portions of the cutters for a greater distance upward from the lower ends of the cutters than would be the case were the cutters held apart by any intermediate portion between the lugs.

I term the cutters "shouldered cutters" for the reason that the rounded corners 16 which extend away from the shank at right angles thereto are in the nature of shoulders, the inner faces 4³, of which engage the spreading faces 9 of the side lugs 2' to brace the cutters and hold them apart.—

Rewrite claims 1, 2 and 3 to read as follows:

1. An underreamer body terminating in prongs _{D⁴} having projecting lugs at their lower ends with spreading bearings 9 for holding the cutters apart.

2. An underreamer body terminating in prongs and provided with upper and lower bearings _{per E} the for ~~its expanded~~ cutters, said prongs having projecting lugs, the edges of which form lower bearings for holding the cutters apart, and the ends of said lugs having beveled end faces.

3. An underreamer body terminating in prongs the inner faces of which are provided with straight _{per E} parallel ways, ~~the cutters having straight shanks fitting said ways,~~ the ends of said

prongs terminating in lugs below said ways to spread and hold the cutters apart.— [850]

I request reconsideration and allowance of claim 4 for the reason that Double 748,054, does not show a cutter body terminating in prongs forming a fork. Upon the contrary, the Double body is provided with a web 6 on each side of which are recesses 4 and 5, there being a slot 7 through the web. The Double underreamer body in #748,054 clearly does not anticipate claim 4 which is limited to the body terminating in prongs forming a fork.

It is thought that the rejection of claim 4 on this reference was an inadvertency, as the applicant advises the writer as follows:

“You can remind the Examiner, that he and I investigated that particular point very carefully, while I was in Washington, and we discovered that no patent has ever been issued, covering on forked mouth reamers with shoulders on their inner faces. He stated without hesitation, that I was entitled to that claim. The Double patent certainly does not cover on the reamer terminating in prongs forming a fork. He apparently quite overlooks the difference in the construction of the two reamers. I will ask you to again request an allowance of that claim.”

In view of the foregoing I request reconsideration and allowance of claim 5. The downwardly-extending lugs 3, 3' in the Double Patent #796,197 do not suggest the prongs having shoulders on the inner faces to form ways for the cutters, and since Double #748,054 does not suggest any forked structure, and Double does not in fact in either patent show the

structure claimed in the first two lines of claim 5; nor are the dowel pins or the rest of the claimed combination found in any of the patents in the relation stated, it is thought this claim, upon reconsideration, will be allowed.

Please reconsider and allow claim 8 in view of the foregoing. Double #748,054, as above stated, does not show a fork, and Double #796,197, issued long after, does not show any [851] shoulders on the inner faces to form the ways. It is believed that the Examiner will see his way to allow this claim.

Claim 9, line 2, change "terminates" to—terminate.

Claim 10, line 1, before "lower" insert—sides of the.

Cancel claims 16 and 17 and substitute therefor:

—16. An underreamer cutter having two shoulders and a bearing face on the inner side of each of
 D⁵ the two shoulders of the cutter.

17. An underreamer-cutter having a shank and a shoulder on either side of the shank of the cutter, each of said shoulders projecting at right angles to the shank of the cutter and having a bearing face on its inner side.

Rewrite claim 18 to read as follows:

—18. An underreamer having a body terminating
 D⁶ in a fork, and cutters suspended between the prongs of the fork, the ends of said prongs con-
stituting wedges to wedge between the cutters.

Insert E³ It is believed that the foregoing avoids all objection and places the case in condition for issue.

The final fee is herewith transmitted and it is requested that the patent issue as early as possible.

Very respectfully,

JAMES R. TOWNSEND,
Attorney for Wilson.

JRT-J. [852]

Account.

MAIL ROOM.

289,380 Paper No. 8.

APR. 16, 1906.

Amdt. (drg.)

U. S. PATENT OFFICE.

IN THE UNITED STATES PATENT OFFICE.

MAILED

To Patent Office

APR. 10, 1906.

James R. Townsend.

E. C. Wilson,

Underreamer,

Filed Nov. 28, 1905,

Ser. No. 289,280.

Div. 38

Room 378

Paper #5

Los Angeles, Cal., April 9, 1906.

Hon. Commissioner of Patents,

Sir: The application has been considered in view of Office letter dated March 21, 1906.

Additional reference characters appear to be required on the drawing. Please add to the drawing the character 2".

In Figure 5 apply said character immediately below the character 3 and connect it with the solid lines at the left and right.

In Fig. 6 apply the character 2" inside the circle and connect the same by leaders with the lower faces

of the two triangles which are above said circle and the upper faces of the two triangles which are below said circle.

In Figs. 1, 5, and 6, apply the characters 10', and connect the same by leaders with the shoulder at the base or upper end of the lugs 2"; said shoulder being represented by the four triangles in Fig. 6, by the two shoulders in Fig. 1, and by the two shoulders in Fig. 5.

If any expense attaches charge my account for the same.

Very respectfully,

JAMES R. TOWNSEND,

Atty. for Wilson.

JRT-J.

[Endorsed]: Townsend, J. R. U. S. Patent Office, Number 81,548. Received Apr. 16, 1906, Chief Clerk. Apr. 16, 1906. Corrected and forwarded 4/30/06. No chg. Forward to mail room for Div. 38. Mail Room May 1, 1906. Transfer to Div. 38 U. S. Patent Office, May 1, 1906, Division 38. [853]

Div. 38.
Address
"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

Paper No.
All *communications* this application
should give the serial number, date of
filing, title of invention, and name of
inventor.

DEPARTMENT OF THE INTERIOR.

UNITED STATES PATENT OFFICE.

WASHINGTON, D. C., May 4, 1906.

MAILED

” ” ”

Elihu C. Wilson,

Care James R. Townsend,

Bradbury Bldg., Los Angeles, Cal.

Please find below a communication from the

your
EXAMINER in charge of the application of for
"Underreamer," filed November 28, 1905, Serial No.
289,380.

F. I. ALLEN,
THOMAS EWING,
Commissioner of Patents.

In response to the communication filed April 16,
1906:

In line 3 of the amendment to page 3, line 4, "4"
should be 4².

Claims 2 and 3 are objected to on account of the
reference to the cutters. The introductory phrase of
both claims sets forth that the combination is for an
underreamer body, and as such the cutters form no
part of said body.

It is suggested that in claim 2, line 2, "its ex-
panded" be changed to *the*.

Claim 3, line 3, "the cutters having straight shanks
fitting said ways" should be canceled.

Claim 10 is rejected on Double, 748,054, of record.

The Examiner is unable to see wherein claims 16 and
17 distinguish from Double, 748, 054, of record, and
said claims are accordingly rejected. [854]

Claims 1, 4, 5, 6, 7, 8, 9, 11, 12, 13, 14, 15 and 18, are
allowed.

A. P. SHAW,
Ex.

MEP. [855]

U. S. Patent Office,
May 12, 1906.

289,380 Paper No. 10.
Amdt. E.

Division 38.

IN THE UNITED STATES PATENT OFFICE.

Elihu C. Wilson

Underreamer,
Filed Nov. 28, 1905,
Ser. No. 289,380.

Div. 38,
Room 378,
Paper #10.

Washington, D. C., May 12, 1906.

Hon. Commissioner of Patents,

Sir: Office letter of May 4, 1906, has been considered.

It is noted that the leader from the character 4³ in Fig 9 of the drawings is too long. Please remove the end thereof so that the leader will terminate at the right of a vertical drawn from the right edge of the shank 4'.

Please add the character 4³ to the left of Fig. 9 and connect the same by a leader to indicate on the left of the view the bearing corresponding to the one indicated by the character 4³ at the right of the view.

In Fig. 4 apply the character 4³ in at least two places above and below the view of connect said character by a leader to indicate the bearings at the edges of the cutters 4.

Apply the character 4 to indicate the cutter at the left of Fig. 4.

In the specification:

Page 1, line 11, before the period insert:

—and to leave a maximum open space between the E' cutters to receive the loose material or sludge,

at the bottom [856] of the well or other opening during the operation of drilling.

Claim 2, line 2 change "its expanded" to—the.

Claim 3, line 3, cancel "the cutters having straight shanks fitting said ways."

Rewrite claim 10 to read as follows:

—10. An underreamer body terminating in prongs
E² having projecting lugs at their lower ends to hold the cutters apart.

Add the following claims:

—19. An underreamer comprising a body terminating in two prongs, and cutters each having
E³ two shoulders and a bearing face on the inner side of each of the two shoulders to engage said prongs.—

20. An underreamer comprising a body terminating in prongs the inner face of which are provided with straight parallel ways, and cutters having straight shanks fitting said ways, the ends of said prongs terminating in lugs below said ways to spread and hold the cutters apart.

It is believed that in view of the application of the additional characters to Figs. 9 and 4, the Examiner will be able to pass claims 16 and 17. The Double Cutter has its bearing face entirely across the cutter instead of on the inner side of the shoulders at the sides of the shank as s specified in these claims.

It is believed that in view of the application of the condition for issue.

The final fee has been paid. Please issue the patent at once.

Very respectfully,

JAMES R. TOWNSEND,

Atty. for Wilson. [857]

IN THE UNITED STATES PATENT OFFICE.

Div. 78.
Room 273.
Paper 10.

Elihu C. Wilson,
Under-reever,
Filed Nov. 29, 1905,
Ser. No. 289,330.

Washington, D.C. May 18 1906.

Hon. Commissioner of Patents,

Sir:-

Please amend Fig. 9 of the drawings as indicated by red lines in the accompanying sketch, viz:

In Fig. 9, add two horizontal lines: one connecting the lower ends of the edge lines of the shank, and the other connecting said edged lines to indicate the angle in the face of the shank as shown in Fig. 7.

You will please prepare and file in the case photocopies of the drawings. (full size).

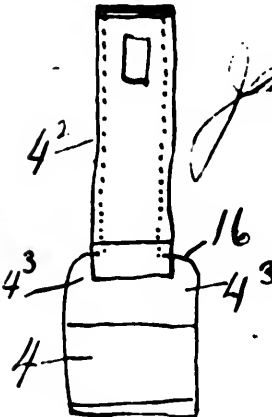
Charge my account for the service.

Fig. 9.

Very respectfully,

James R. Townsend

Atty. for Wilson.



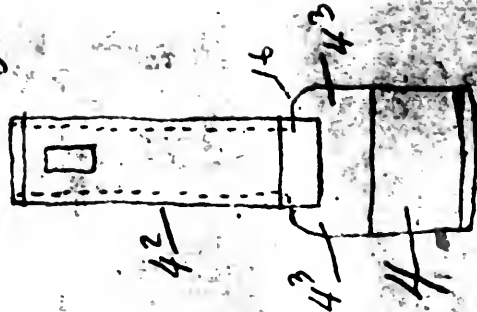
*W.K.
M & P*



289,380

Patent

Fig 9
Candellary



U. S. Patent Off.
MAY 13 1916

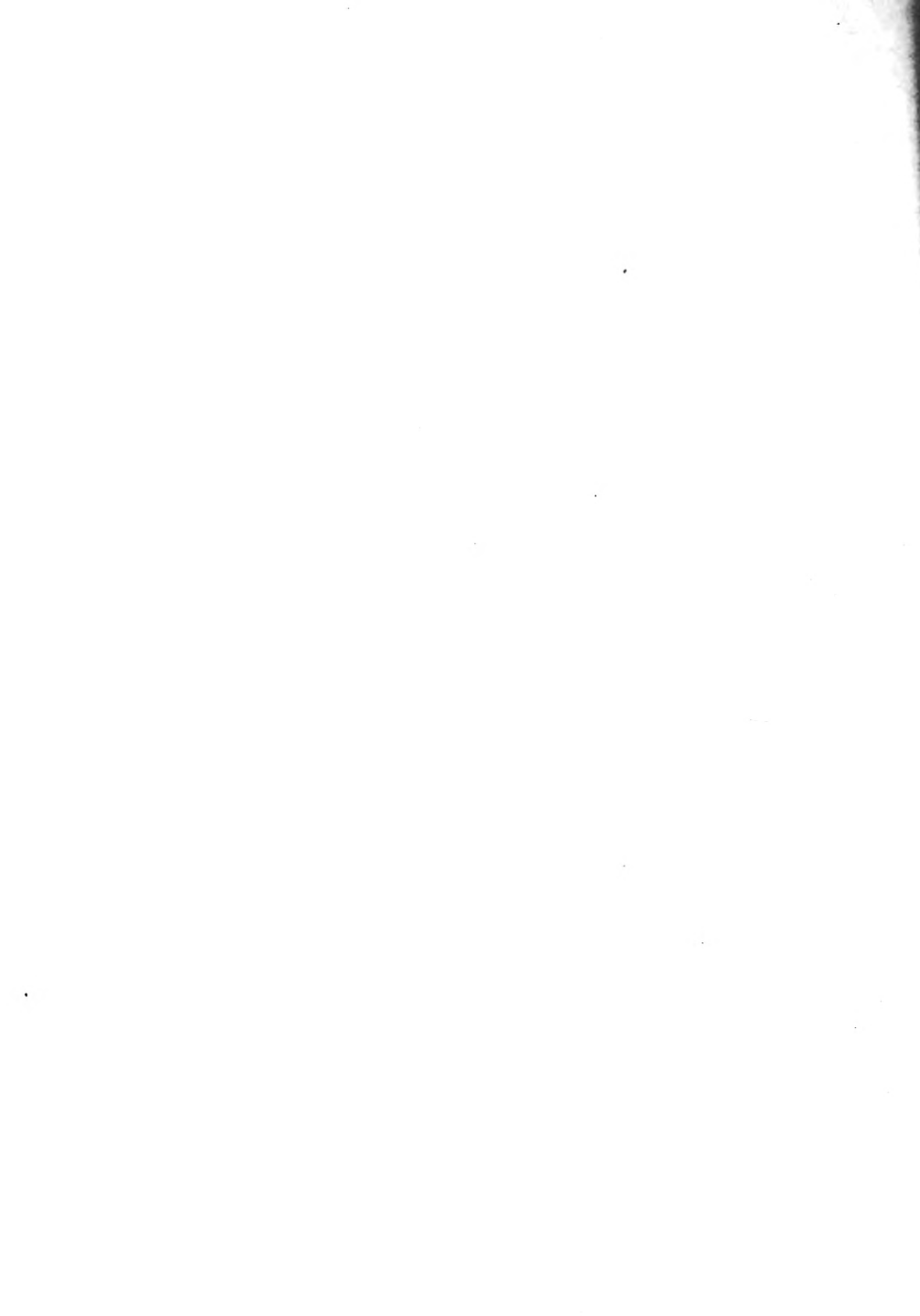


Fig. 1

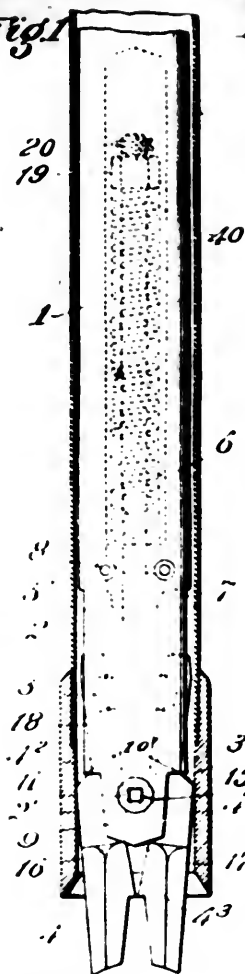


Fig. 3.

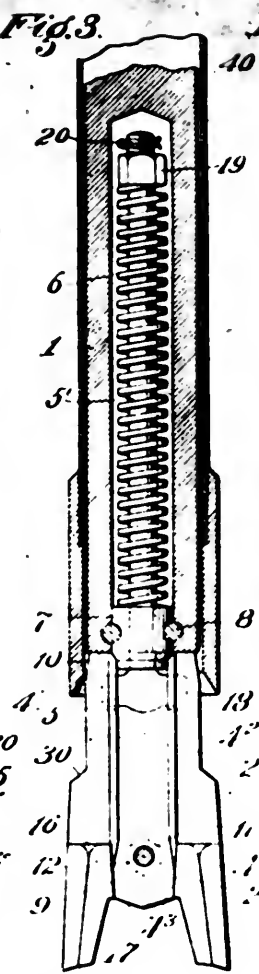


Fig. 5.

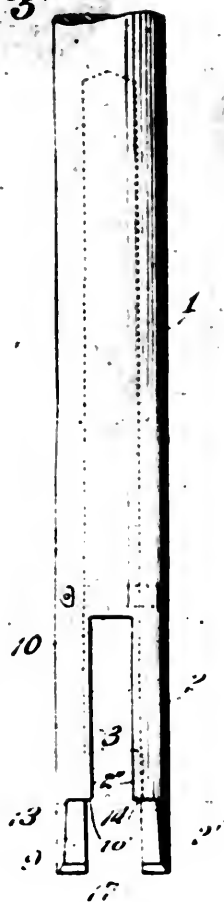


Fig. 2.



Fig. 4.



Fig. 6.



Inventor:

Elihu C. Wilson

By James R. Townsend
his atty.

Witnesses:

C. C. K. H.
C. J. Williams

Fig. 7.

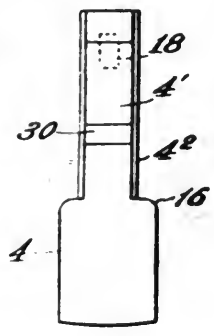


Fig. 8.

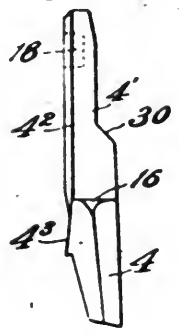


Fig. 9.

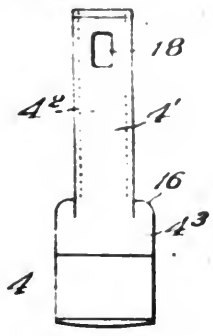


Fig. 10.

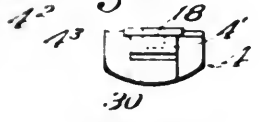


Fig. 11.

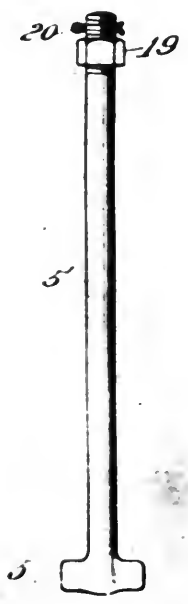


Fig. 12.



Fig. 13.

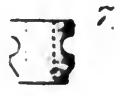
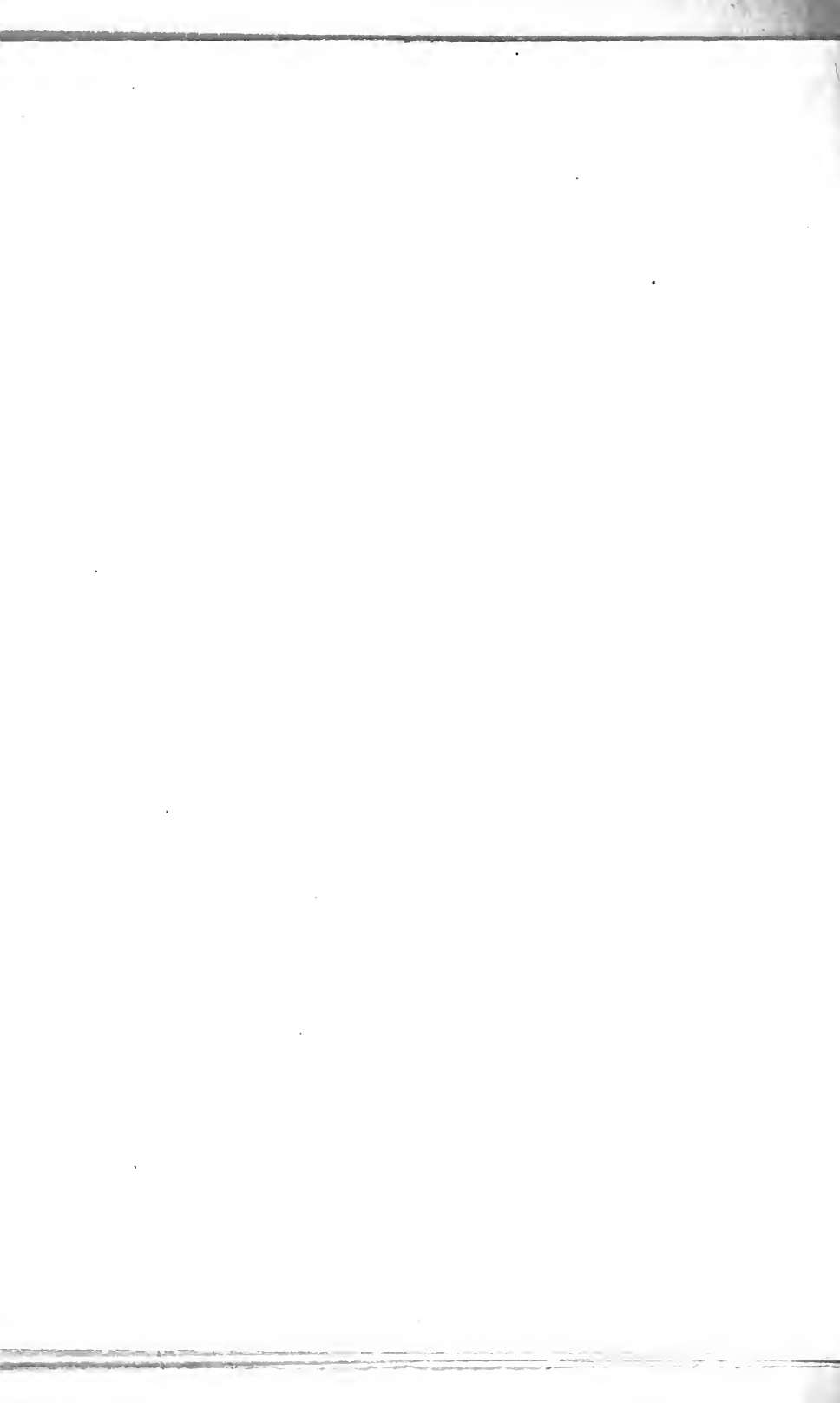


Fig. 14.



Witnesses:
C. H. H.
G. J. Williams

Inventor,
Elihu C. Wilson.
by James P. Townsend
his atty



Div. No. 38.

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

Paper No. 12

All communications ~~_____~~ing this ap-
plication should give the serial num-
ber, date of filing, title of invention,
and name of inventor.

DEPARTMENT OF THE INTERIOR.
UNITED STATES PATENT OFFICE,
WASHINGTON, D. C., June, 7, 1906.
MAILED " " "

Elihu C. Wilson,

Care J. R. Townsend,

Bradbury Bldg., Los Angeles, Cal.

Please find below a communication from the
your

EXAMINER in charge of ~~the~~ application ~~of~~ for
"Underreamer," filed November 28, 1906. Serial
No. 289,380.

F. I. ALLEN.

THOMAS EWING,

Commissioner of Patents.

In response to the communication filed May 12,
1906:

Claims 1, 2, 10, 11, 12, 14, 15, 16, 17, 18, and 19,
are rejected upon—

Cummings—819,042, May 1, 1906, Artesian & Oil
Wells, Reamers.

The remaining claims are allowed.

A. P. SHAW,

Ex.

M.E.P. [862].

MAIL ROOM.

289,380 Paper No. 13

Jun. 18, 1906.

Letter, Affidavit and Print.

U. S. PATENT OFFICE.

IN THE UNITED STATES PATENT OFFICE.

MAILED.

To Patent Office.

Jun. 13, 1906.

James R. Townsend.

Elihu C. Wilson,

Underreamer,

Filed Nov. 28, 1905,

Ser. No. 289,380.

Division 38

Room No. 378

Paper No. 11

Los Angeles, Cal., June 11, 1906.

Hon. Commissioner of Patents,

Sir: I herewith hand you affidavit of above mentioned applicant, under Rule 75, of facts showing the completion of the claimed invention in the United States prior to the filing date of the patent of A. Cummings, which issued May 1, 1906, and contains no claims to the subject matter contained in this application.

This is done for the purpose of avoiding reference to said patent.

The final fee has been transmitted and I request that the patent be issued at the earliest possible date.

Very respectfully,

JAMES R. TOWNSEND,

Atty. for Wilson.

Enclosures:

T-A.

MAIL ROOM.

Jun. 18, 1906.

U. S. PATENT OFFICE.

Elihu C. Wilson,
Underreamer,
Fld. Nov. 28, 1905,
Ser. No. 289,380.

MAILED
To Patent Office
Jun. 13, 1906.

James R. Townsend.

IN THE UNITED STATES PATENT OFFICE.

State of California,
County of Kern,—ss.

Elihu C. Wilson, first being duly sworn, [863], deposes and says, that he is the applicant who filed an application for patent for UNDERREAMER, in the United States Patent Office, filed Nov. 28, 1905, Serial No. 289,380.

That on or about the months of January or February, 1904, he made the drawing of the invention set forth and claimed in said application for patent and that a blue-print copy of the said drawing is hereto attached and marked "EXHIBIT A, E. C. Wilson."

That the said drawing was made in the State of California, and that it was exhibited to the foreman and other employees of the Baker Iron Works of Los Angeles, California, and as soon as the drawing was completed, namely, about the months of January or February, 1904, that he caused an underreamer to be made in accordance with said drawing, and that said underreamer was completed by the Baker Iron Works some time prior to the 29th day of March, 1904.

Affiant further makes oath, that he does not know and does not believe that the invention has been in public use or on sale, or printed or described in any printed publication, in this or any foreign country for more than two years prior to his application, and that he never abandoned the invention.

E. C. WILSON.

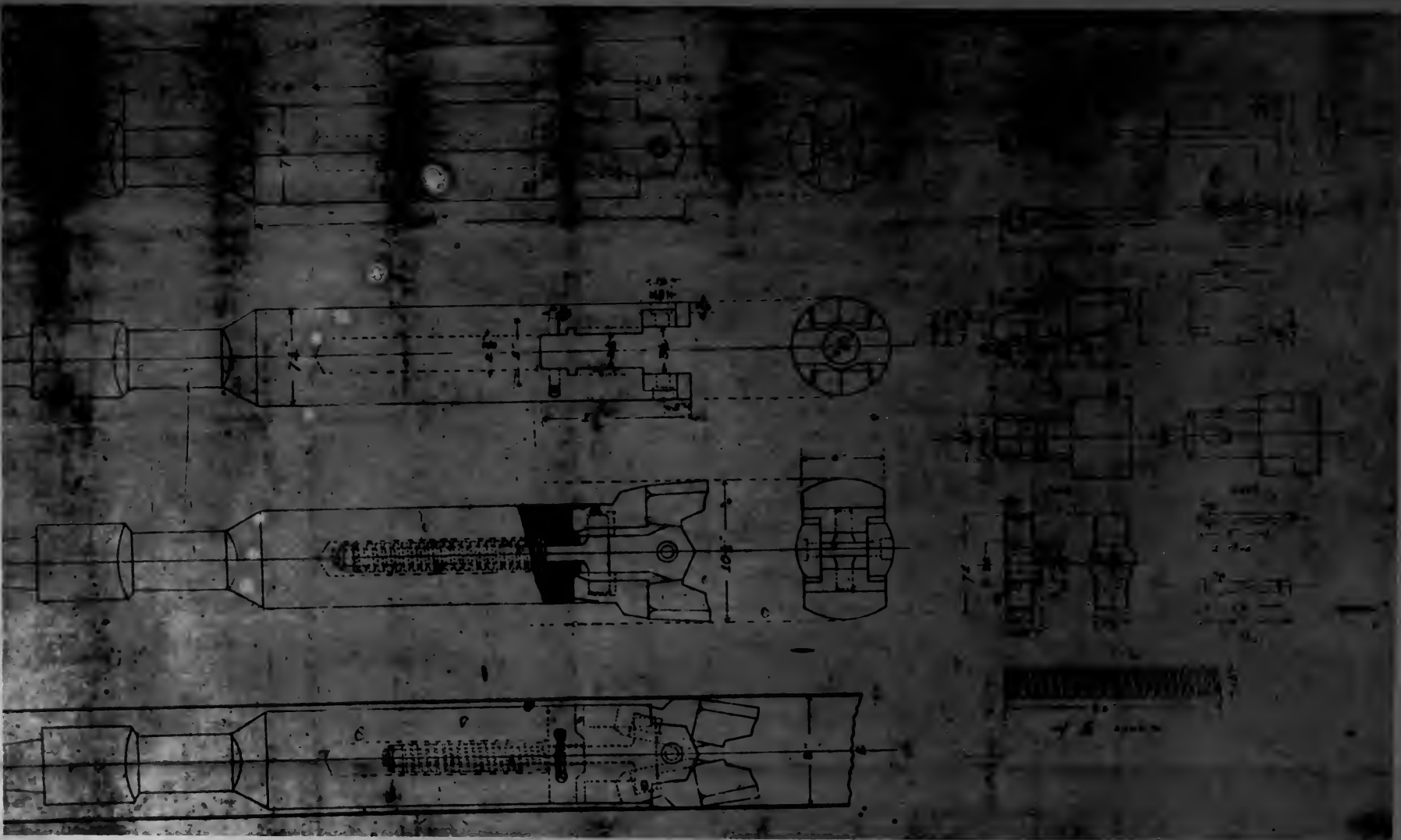
Sworn to and subscribed to before me, this 12th day of June, 1906, at Bakersfield, in the County of Kern, State of California.

[Seal]

H. I. TUPMAN,
Notary Public in and for the County of Kern, State
of California.

My commissioner expires Aug. 18, 1908.

T-A. [864]





CERTIFICATE OF DEPOSIT.

\$20 RECEIVED

MAILED

JUN. 18, 1906. S.

JUN. 13, 1906.

CHIEF CLERK.

James R. Townsend.

U. S. PATENT OFFICE.

MEMORANDUM

of

FEE PAID AT UNITED STATES PATENT
OFFICE.

(Be careful to give correct Serial No.)

Serial No.289,380....., 1900.

INVENTOR: Elihu C. Wilson,

Patent to be Issued to: Elihu C. Wilson,

Name of Invention, as Allowed: Underreamer.

Date of Payment: June 13, 1906.

FEE: \$20.00.

Date of Filing: Nov. 28, 1905.

Date of Circular of Allowance:

The Commissioner of Patent will please apply the
accompanying fee as indicated above.

JAMES R. TOWNSEND,

ADAM,

Attorney.

Send Patent To

JAMES R. TOWNSEND,

PATENTS

BRADBURY BLOCK,

LOS ANGELES, CAL. [866]

JMH.

Address only

Serial No. 289,380

“The Commissioner of Patents,
Washington, D. C.”

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,
Washington, D. C., June 18, 1906.

Elihu C. Wilson,
c/o James R. Townsend,
430 Bradbury Bldg.,
Los Angeles, Cali.

Sir:

You are informed that the final fee of TWENTY
DOLLARS has been received in your application
for Improvement in

Underreamer.

Date of receipt:

Very respectfully,

F. I. ALLEN.

E. B. MOORE,

Commissioner of Patents.

Div. No. 38.

Paper No. 14.

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

All communications ——— *ing* this
application should give the serial
number, date of filing, title of in-
vention, and name of inventor.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

Washington, D. C., June 23, 1906.

MAILED " " "

Elihu C. Wilson,

c/o J. R. Townsend,

Bradbury Block, Los Angeles, Cal.

Please find below a communication from the
your

EXAMINER in charge of the application of for
"Underreamer," filed November 28, 1905, Serial
No. 289,380.

F. I. ALLEN.

THOMAS EWING,

Commissioner of Patents. [867]

In response to the communication filed June 18,
1906:

In line 3 of the amendment to line 4, page 3, 4"
should be 4² to agree with the drawing, as required in
Office letter of May 4, 1906.

The claims are allowed.

G. R. IDE,

Actg. Exr.

M. E. P.

U. S. PATENT OFFICE.

JUL. 5, 1906.

Division 38.

MAIL ROOM.

289,380 Paper No. 15.

JUL. 3, 1906.

Amdt. F.

U. S. PATENT OFFICE.

IN THE UNITED STATES PATENT OFFICE.

MAILED

To Patent Office.

JUN. 28, 1906.

James R. Townsend.

Elihu C. Wilson,

Underreamer,

Division 38.

Filed Nov. 28, 1905,

Room No. 378.

Ser. No. 289,380.

Paper No. 15.

Los Angeles, Cal., June 28, 1906.

Hon. Commissioner of Patents,

Sir: In response to Office Letter of June 23, 1906.

Please substitute 4² for "4" in line 3 of amend-
ment to line 4 Page 3.

The final fee has been paid. Please issue the pat-
ent as soon as possible.

Very respectfully,

JAMES R. TOWNSEND,

Atty. for Wilson.

[Endorsed]: Docket Clerk Jul. 3, 1906. U. S.
Patent Office. [868]

A. R.

289,380

Issue Division

All communications should be
addressed to

“The Commissioner of Patents,
Washington, D. C.”

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE,

Washington, D. C., July 12, 1906.

190—

Elihu C. Wilson,

c/o J. R. Townsend,

430 Bradbury Bldg.,

Los Angeles, Cal.

Sir:

Your Application for a patent for an Improvement
Under Reamers
filed Nov. 28, 1905, 190—, has been examined and
allowed.

The final fee, TWENTY DOLLARS, having been
received, the Letters Patent will be forwarded in
due order of business.

Additional copies of Specifications and Drawings
will be charged for at the following rates: Single
copies, uncertified, 5 cents each. The money should
accompany the order.

Very respectfully,

F. I. ALLEN,

Commissioner of Patents. [869]

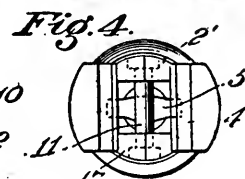
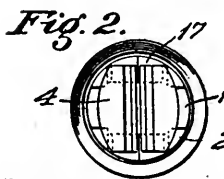
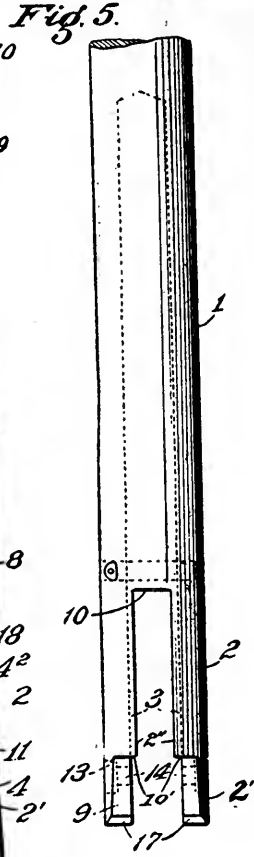
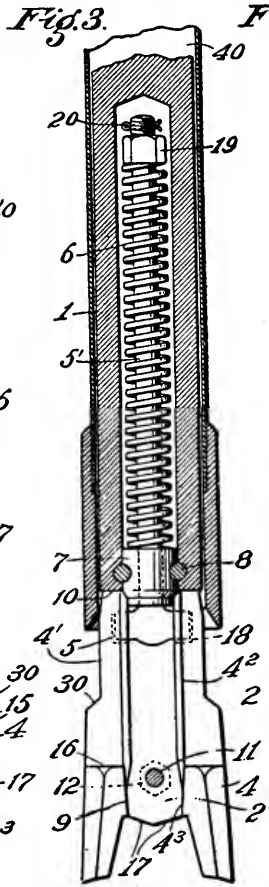
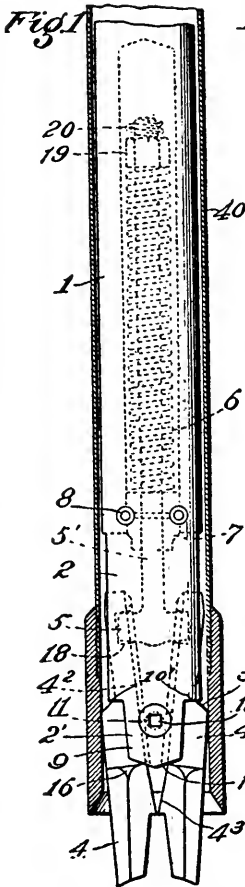
No. 827,595.

PATENTED JULY 31, 1906.

E. C. WILSON.
UNDERREAMER.

APPLICATION FILED NOV 28, 1906.

2 SHEETS-SHEET



Witnesses:
W. C. Holly
B. J. Williams

Inventor,
Elihu C. Wilson
 by *James R. Townsend*
 his atty

No. 827,595.

PATENTED JULY 31, 1906.

E. C. WILSON.
UNDERREAMER.

APPLICATION FILED NOV. 28, 1906.

2 SHEETS—SHEET 2.

Fig. 7.

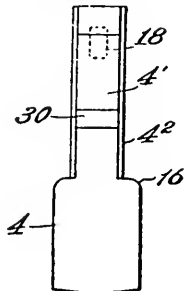


Fig. 8.

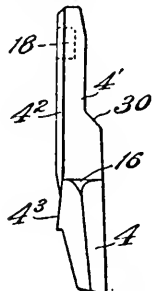


Fig. 9.

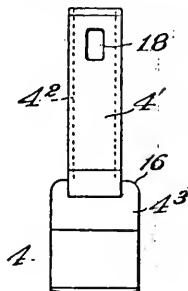


Fig. 10.

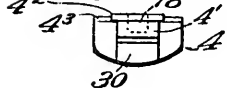


Fig. 11.

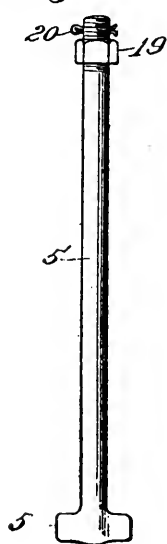


Fig. 12.



Fig. 13.



Fig. 14.



Witnesses:

C. C. Holly
G. J. Willhaus

Inventor:

Elihu C. Wilson.

G. James P. Townsend
his Atty.

UNITED STATES PATENT OFFICE.

ELIHU C. WILSON, OF BAKERSFIELD, CALIFORNIA.

UNDERREAMER.

No. 827,595.

Specification of Letters Patent.

Patented July 31, 19

Application filed November 28, 1905. Serial No. 289,380.

To all whom it may concern:

Be it known that I, ELIHU C. WILSON, a citizen of the United States, residing at Bakersfield, in the county of Kern and State of California, have invented a new and useful Underreamer, of which the following is a specification.

Objects of this invention are to provide an underreamer of superior strength and of superior width and expansion of cutters so as to enable reaming as great a portion of the circumference of the hole as possible at each stroke, to insure greater safety against losing the cutters from the body while reaming, to avoid the necessity of a middle joint in the mandrel or reamer body, and to leave a maximum open space between the cutters to receive the loose material or sludge at the bottom of the well or other opening during the operation of drilling.

By this invention it is possible to increase the strength of the cross or T which suspends the cutters.

In this invention a cross or T formed of a single forging is provided for suspending the cutters.

Another decided advantage is simplicity and convenience of attaching and removing the cutters and suspending devices from the reamer-body.

Another advantage is facility of collapsing the cutters. I so construct the mouth of the underreamer as to dispense with stock between the collapsed cutters, thus enabling the cutters to close together. This feature makes extreme expansion possible and makes the use of maximum amount of stock in shanks of cutters possible, thus insuring maximum strength of cutters.

The accompanying drawings illustrate the invention.

Figure 1 is a view of the underreamer in a casing just before it has passed through the shoe of the casing, the parts being collapsed.

Fig. 2 is a view looking at the bottom of Fig. 1. Fig. 3 is a view of this newly-invented underreamer in a well, the same having just passed through the casing-shoe and expanded for reaming the hole below. Portions are shown in mid-section. Fig. 4 is a view looking at the bottom of Fig. 3. Fig. 5 is a view of the reamer-body at right angles to Figs. 1 and 2. Fig. 6 is a view looking at the bottom of Fig. 5. Fig. 7 is a front view of a cutter detached. Fig. 8 is an edge view of a cutter at right angles to Fig. 7. Fig. 9 is a

view of the inside or back of the cutter. Fig. 10 is a view looking down on the top of the cutter. Fig. 11 is a view of the cross. Fig. 12 is a view of the cross at right angles to Fig. 11. Fig. 13 is a side view of the spring seat-block detached. Fig. 14 is a bottom view of the same.

1 designates a hollow body of an underreamer terminating in prongs 2, forming a fork, said prongs having shoulders 2" on their inner faces to form ways 3 for cutters. Said prongs are provided with and terminate in downwardly-projecting lugs 2' to spread the cutters apart.

4 designates the cutters, which are interchangeable; 4', the cutter-shank; 4², bearing-shoulders of the cutters to engage inside the ways 3; 4³, expansion bearing-faces of the cutters on the sides of said cutters.

The inner faces of the prongs 2 are parallel, and the sides or shoulders 2", which form the ways 3, are also parallel. The cutter-shank 4' and its bearing-shoulders 4² are straight—that is to say, the sides or edges thereof are parallel and fit the ways 3.

5 is a cross, 5' the stem of the cross, and 6 the spring which actuates the cross. The parts 5 5' constitute spring-actuated means for actuating the cutters to expand the same.

7 is a block forming a seat for the spring 6. One or more dowel-pins 8 may be provided as means for holding the block or spring-seat 7 in place.

9 designates the spreading bearings for holding the cutters 4 apart, and 10 the down-thrust bearings for the cutters. The down-thrust bearings 10' are in the nature of shoulders formed by the edges of the forks at the base of the lugs 2'. The prongs 2 of the body are of substantially one thickness throughout, excepting that they are reduced at their lower ends to form lugs for spreading the cutters 4 apart. The edges of the lugs 2' for the spreading bearings 9 and the prongs terminate abruptly in the shoulders 10' at the base of the lugs 2". This construction affords the necessary operative structure with maximum strength for minimum weight of body.

11 is a detachable cross-piece in the form of a bolt secured by a nut 12. 13 is an angular socket in the outer face of one of the forks around the bolt-hole 14 in said fork. The nut 12 is conformed to the angular socket, and the bolt 11 is provided with an angular socket 15 in its head to receive a wrench (not shown) for screwing the bolt into the nut.

827,595

The expansion bearing-faces 4³ terminate at their upper ends in rounded corners or bearings 16 to ride more readily over the beveled end faces 17 of the downwardly-projecting lugs 2' to engage said bearings for expanding the cutters.

18 designates recesses in the inner faces of the cutters for engaging the ends of the cross 5.

19 and 20 indicate the usual tension-nut for the spring 6 and the cotter-pin for securing the same.

To assemble the underreamer, the block 7 will first be placed on the stem 5' of the cross 5, and the spring 6 is then adjusted and secured in place by the nut 19 and cotter-pin 20. Then the cutters are placed on the ends, respectively, of the cross 5, which seat in the recesses 18 therefor. Then the parts thus assembled are inserted into the hollow mandrel and brought into the position shown in Fig. 3, whereupon the dowelpins 8 are inserted and the cross-piece formed of the bolt 11 is then inserted. The nut 12 is placed in its angular socket 13, and the bolt or cross-piece 11 is then screwed home. The underreamer is then in condition for operation.

To use the underreamer, the cutters will be drawn down below the downwardly-projecting lugs 2', thus collapsing the same into the position shown in Fig. 1, whereupon the underreamer will be inserted into the pipe or casing in the usual manner and allowed to descend. When it has passed through the shoe, as shown in Fig. 3, the spring operates in the usual manner to draw the cross 5 up, thus bringing the cutters into the expanded position shown in Fig. 3. The rounded shoulders 16 ride readily over the beveled faces 17, and the upper ends of the cutters seat against the downthrust bearings 10, and the bearing-shoulders 4² of the cutters engage the ways 3 of the fork prongs or members 2, thereby being solidly held during the operation of underreaming. The spreading bearings 9 of the lugs 2' engage the expansion bearing-faces 4³ of the cutters at the same time, so that the tool is practically a bit during the operation of underreaming.

30 designates the usual shoulders on the cutters for drawing the same in when the tool is removed through the pipe or casing 40.

It is advisable that the lower ends of the cutters should not form downthrust bearings for the cutters, as there would otherwise be a tendency of crystallization of said cutters, which is avoided by making the downthrust bearings at 10 only.

The cross-piece 11 serves as a brace for the prongs of the fork and prevents accidental removal of the cutters and T or cross 5.

It is to be noted that by the construction shown the cutters are quickly expanded at the initial upward movement of the same

after escaping the shoe of the casing 40, and that immediately thereafter the cutters are solidly held in the straight and parallel ways 3, and that when the cutters are fully drawn up they seat on the downthrust bearings 10 and the spreading bearings 9, while the shanks are rigidly held throughout their length. Said spreading bearings are on the sides of the lower ends of the body, thus engaging the outer edges of the cutters to hold the cutters apart and leaving an open space between the middle portions of the cutters for a greater distance upward from the lower ends of the cutters than would be the case were the cutters held apart by any intermediate portion between the lugs.

I term the cutters "shouldered cutters," for the reason that the rounded corners 16, which extend away from the shank at right angles thereto, are in the nature of shoulders, the inner faces 4³ of which engage the spreading faces 9 of the side lugs 2' to brace the cutters and hold them apart.

What I claim is—

1. An underreamer-body terminating in prongs having projecting lugs at their lower ends with spreading bearings 9 for holding the cutters apart.

2. An underreamer-body terminating in prongs and provided with upper and lower bearings for the cutters, said prongs having projecting lugs, the edges of which form lower bearings for holding the cutters apart, and the ends of said lugs having beveled end faces.

3. An underreamer-body terminating in prongs the inner faces of which are provided with straight parallel ways, the ends of said prongs terminating in lugs below said ways to spread and hold the cutters apart.

4. An underreamer-body terminating in prongs forming a fork, said prongs having shoulders on their inner faces to form ways for the cutters.

5. A hollow underreamer-body terminating in prongs forming a fork having shoulders on the inner faces to form ways for the cutters, cutters in said ways, a cross in said hollow body for operating said cutters, a spring for operating the cross, a block in the body to form a seat for said spring, and one or more dowel-pins securing the block in place.

6. A hollow underreamer-body, cutters, a cross inside the hollow body for operating said cutters, a spring for operating said cross, a block in said body forming a seat for said spring, and one or more dowel-pins for holding the block in place, said block and pins being located entirely above the head of the cross.

7. A hollow underreamer-body terminating in prongs forming a fork and provided with ways and downthrust bearings for cut-

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- ters, cutters in said ways engaging said bearings, a cross for operating said cutters, a spring for actuating said cross, a block forming a guide for the stem of the cross and a seat for the cross-actuating spring, its lower end terminating above the head of the cross and projecting below the downthrust bearings to hold the upper ends of the cutters apart, and means for holding the block in the reamer-body.
8. A hollow underreamer-body terminating in prongs forming a fork, said prongs having shoulders on their inner faces to form ways, cutters in said ways, means for operating the cutters, and a detachable cross-piece connecting the ends of the fork.
9. An underreamer-body terminating in prongs forming a fork and provided with shoulders on the inner faces of the prongs which form cutter-ways and terminate in downwardly-projecting lugs, and cutters mounted between the prongs of said fork and having shoulders inside the fork and faces to bear on the projecting lugs.
10. An underreamer-body terminating in prongs having projecting lugs at their lower ends to hold the cutters apart.
11. An underreamer-body terminating in prongs forming a fork having beveled faces at the ends of its prongs, cutters having shoulders to ride over said beveled faces, and means for suspending said cutters in said body.
12. An underreamer-body terminating in prongs forming a fork, the ends of said prongs being provided with lugs to spread the cutters apart.
13. An under-reamer-body terminating in prongs forming a fork, said prongs having shoulders on the inner faces to form ways for the cutters, and said prongs terminating in lugs to act, as spreaders for the cutters.
14. A hollow underreamer-body terminating in prongs forming a fork, said prongs terminating in lugs for spreading the cutters, said lugs having beveled ends to engage bearings on cutters to expand cutters.
15. An underreamer-body terminating in prongs forming a fork, said prongs terminating in lugs or projections, said lugs having beveled faces or bearings to expand the cutters, and also faces or bearings for the cutters to rest on after they have expanded to a normal position for reaming.
16. An underreamer-cutter having two shoulders and a bearing-face on the inner side of each of the two shoulders of the cutter.
17. An underreamer-cutter having a shank and a shoulder on either side of the shank of the cutter, each of said shoulders projecting at right angles to the shank of the cutter and having a bearing-face on its inner side.
18. An underreamer having a body terminating in a fork, and cutters suspended between the prongs of the fork, the ends of said prongs constituting wedges to wedge between the cutters.
19. An underreamer comprising a body terminating in two prongs, and cutters each having two shoulders and a bearing-face on the inner side of each of the two shoulders to engage said prongs.
20. An underreamer comprising a body terminating in prongs the inner faces of which are provided with straight parallel ways, and cutters having straight shanks fitting said ways, the ends of said prongs terminating in lugs below said ways to spread and hold the cutters apart.
- In testimony whereof I have hereunto set my hand at Bakersfield, California, this 20th day of November, 1905.
- ELIHU C. WILSON.
- In presence of—
H. I. TUPMAN,
T. E. KLOPSTEIN.

1905.

CONTENTS:

Print May 31—06.

1/2. Application papers. OK.

1. Amdt. A. Dec. 26—05.

166. Artesian & Oil Wells

2. Rej. Jan. 9—06.

6. Reamers.

3. Amdt. B. Mar. 12—06.

4. Rej. Mar. 21—06.

5. Amdt. C. Mar. 27—06.

6. Letter April 3—06.

7. Amdt. 4. Apr. 16—06.

8. Amdt. (drg.). Apr. 16—06.

9. Rej. May 4—06.

10. Amdt. E. May 12—06.

11. Amdt. (drg.). May 12—'06.

12. Rej. June 7—06.

13. Letter, Affidavit, Print. June 18—06.

14. Letter. June 23—06.

15. Amdt. F. July 3—06.

U. S. Patent Office.

DEC. 1, 1905.

DIVISION 38.

TITLE:

Improvement in Underreamers.

[Endorsed]: 715-2. U. S. Dist. Court, Southern District of California, Southern Division. Wilson vs. Union Tool Co. In Equity A-4. Complainant's Exhibit Wilson File Wrapper and Contents, Los Angeles, Cal., March 24, 1914. I. Benjamin, Notary Public. [871]

**Defendant's Exhibit—File Wrapper and Contents in
Re Application of Frederick William Jones.**

2-390.

UNITED STATES OF AMERICA.
DEPARTMENT OF THE INTERIOR.
UNITED STATES PATENT OFFICE.

To all to whom these presents shall come, Greeting:

THIS IS TO CERTIFY that the annexed is a true copy from the Records of this Office of the File Wrapper, Contents and Drawing in the matter of the

Abandoned Application of
Frederick William Jones.

Filed July 14, 1902.

Serial Number 115,608,

for

Improvement in Underreamer for Oil-well purposes.

IN TESTIMONY WHEREOF I have hereunto set my hand and caused the seal of the Patent Office to be affixed at the City of Washington, this 13th day of September, in the year of our Lord one thousand nine hundred and fifteen and of the Independence of the United States of America the one hundred and fortieth.

[Seal]

J. T. NEWTON,

Acting Commissioner of Patents.

[Documentary Stamp.] [872].

2—437

19, NUMBER (SERIES OF 1900).

115,608 1902

DIV. 38

(EX'R'S BOOK) 110-9

PATENT NO. Abandoned.

Name—Frederick William Jones.

Of Santa Paula,

County of—

State of California.

Invention—Underreamer for Oil-well purposes.

ORIGINAL.

RENEWED.

Division of App. No. PARTS OF APPLICATION FILED.

}	Petition	Dec. 23, 1901	, 190
	Affidavit	July 14, 1901	, 190
	Specification	“ “, 1902	, 190
	Drawing	“ “, 1902	, 190
	Model	“ “, 190	, 190
	First Fee Cash, \$15.	Dec. 23, 1901	, 190
	“ “ Cert.	, 19	, 190
	Appl. filed complete	July 14, 1902	, 190

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For Commissioner. For Commissioner.

Notice of Allowance , 19 , 190

Final Fee Cash , 19 , 190

“ “ Cert. , 19 , 190

Patented , 190

Associate Attorney Attorney

Name— Serial Number

Patent No.— Date of Patent. [873]

115,608 Paper No. 1/2

Amount Received \$15. E. O.

Chief Clerk J.

PETITION.

To the Commissioner of Patents:

citizen

Your Petitioner, Frederick William Jones, ~~subject~~ of the United States of America, and resident of Santa Paula, in the county of *Ventua*, and State of California, whose postoffice address ~~are~~ ^{is} Santa Paula, Calif, pray that Letters Patent may be granted to the above named for the improvement in An Under-reamer for Oil-Well purposes, as set forth in the annexed specification.

And I hereby appoint Frederick William Jones, attorney of Santa Paula, State of California, /with full power to prosecute this application, of substitution and revocation, / to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent Office connected therewith.

Signed at Santa Paula, in the County of Ventura, and State of California, this 14 day of Dec. 1901.

FREDERICK WILLIAMS JONES.

OATH.

Frederick William Jones, the above-named petitioner, being sworn (or affirmed) deposes and says *thet* he is a citizen of the United States of America and resident of Santa Paula, Ventura County, California, that he verily believe himself to be the original, first, and only inventor of the improvement in an Un-

derreamer for Oil Well purposes as described and claimed in the annexed specification; that he does not know and does not believe that the same was [874] ever known or used before his invention or discovery thereof, or patented or described in any printed publication in any country before his invention or discovery thereof or more than two years prior to this application or in public use or on sale in the United States for more than two years prior to this application; and that no application for patent on said improvement has been filed by him or any of his representatives or assigns in any country foreign to the United States, except as follows:

FREDERICK WILLIAM JONES.

Sworn to and subscribed before me this 16th day of Dec. 1901.

[Seal]

J. B. TITUS,

Notary Public in and for the County of Ventura,
State of California.

[Endorsed]: Mail Room, Dec. 28, 1901. U. S.
Patent Office.

OATH.

State of California,
County of Ventura,—ss.

Frederick William Jones, the above-named petitioner, being sworn (or affirmed) deposes and says that he is a citizen of the United States of America and resident of Santa Paula, in the County of Ventura, in the State of California that he verily believes himself to be the original, first and only inventor of the improvement in An Underreamer for Oil

Well purposes described and claimed in the annexed specification; that he does not know and does not believe that the same was ever known or used before his invention or discovery thereof, or patented or described in any printed publication in any country before his invention or discovery thereof, or more than two years prior to this application, or in public use or on sale in the United States for more than two years prior to this application; and that no application [875] for patent on said improvement has been filed by himself or any representatives or assigns in any country foreign to the United States, except as follows:

FREDERICK WILLIAM JONES.

Sworn to and subscribed before me this seventh day of July, 1902.

[Seal] ARTHUR H. BLANCHARD,
Notary Public in and for the County of Ventura,
State of California.

To whom it may concern :

Be it known that I, Frederick William Jones, a citizen of the United States, residing at Santa Paula, in the county of Ventura, in the State of California.

Having invented a new and useful Underreamer or Expanding bit, of which the following is a specification.

My invention relates to improvements in an Underreamer with a round Mandrel with a taper pin at its upper end, to screw onto the well tools, a flat place for wrenches to screw the same together. The said Mandrel is reduced at its lower end with two seats,

one on each side with a slot extending the length of the seat and through the center of the Mandrel.

A flat tongue extending across the point of mandrel and below the seat.

The said reduced part is threaded at its upper part to receive a collar, the said collar is screwed on over the seats. Two cutters made to fit in the seats and on the flat tongue and extend below the point of mandrel. Held in place with a plunger with an arrow-shaped head under two lugs on the under side and at the upper end of cutters. The said plunger is held in place with a spring and a nut on its upper end. [876]

I attain these objects by the *Machanism* illustrated in the accompanying drawing.

Fig. 1 is a sectional view of the entire machine, showing the cutters as it appears in a working position.

Fig. 2 is a sectional view showing the cutters closed while passing down the well casing.

Fig. 3 shows the general construction of the mandrel and cutters.

Fig. 4 is an end view with one of the cutters removed.

Fig. 5 shows the construction of the cutters.

Similar letters refer to similar parts through out the several views.

In Fig. 1 A is the main mandrel reduced at its lower end and threaded at E to receive collar B with a corresponding thread. C are the cutters which are made with a shank L into two seats P as shown in Fig. 4, in mandrel A and surrounded on the out-side by collar B and shouldering against the end of the

seats P and against the lower edge of collar B.

Cutters C are provided with a lug D at its upper end and on the inner side; said lug is made to fit into slot F as shown in Fig. 4.

Cutters C have a recess on the under-side as shown at G and in Fig. 5 so that the arrow shaped bearing head I can get a wider ~~held~~ ^{down} on cutter C, so that

when the cutters are drawn / as shown in Fig. 2, D can not unhook from I.

Cutters C is made at its lower end V shaped as shown at J, so that if mud or rock get in between when they are spread out in a working position, that when they come together the V shaped will have a tendency to squeeze the mud or rock or anything that may get in between them out on each side; where if they were flat the substance would stay in between them and keep them from coming together, so they would not come out of the well.

Per. A. Cutters C are made with a lug on each side as shown in Fig. 3 at K [877]

and 5 at K, so as to give them a larger bearing ^{against collar Band} on tongue M there-
fore giving the cutters more wearing surface.

55 Tongue M extends across the point of mandrel ^A and below collar B.
Insert A Plunger H is provided with a nut N on the upper end which has a
collar; so if cutters should strike something that would draw them
down to far, the collar on nut N would come down against the end of ^{the tapering threaded}
pin O as shown in Fig. 2; so that the cutters can not come down
60 below collar B and unhook from I and get lost in the well.

Now having described my invention, what I claim as new and desire
to secure by Letters Patent, is:-

Claim I.

Sub B A
65 The combination in an under-reamer with a round mandrel reduced
at its lower end, the said reduced part is threaded at its upper
end to receive a collar to screw on the same substantially as set
forth.

Claim II.

70 The combination in an under-reamer with a round mandrel reduced
at its lower end, the said reduced part is threaded at its upper
end to receive a collar. The said reduced part is also provided
with two seats extending part of the way up the said reduced part.
A slot extending the length of the seat and through the center
of mandrel. Substantially as set forth.

75 Claim III.

The combination in an under-reamer with a round mandrel reduced
at its lower end with a collar to screw on the reduced part, a
flat tongue extending across the reduced part and below the said
80 collar. Substantially as set forth.

Claim IV.

85 The combination in an under-reamer with a round mandrel reduced
at its lower end with a collar to screw on the reduced part. With
a flat tongue extending across the reduced part and below the col-
lar. Two cutters with a lug on each side to engage with the col-

lar b and tongue m. Substantially as set forth.

Claim V.

The combination in an under-reamer with a round mandrel reduced at its lower end, with a collar screwed on the lower end. With
 90 two cutters, the part of said cutters that extend below the flat tongue on mandrel is V shaped on the in side. Substantially as set forth.

Claim VI.

The combination in an under-reamer with a round mandrel reduced at its lower end with a collar to screw on the reduced part. With
 95 two cutters provided at the upper end and on the under side with a lug to come in contact with a plunger with an arrow shaped head. Substantially as set forth.

Claim VII.

The combination in an under-reamer with a round mandrel reduced at its lower end with a collar to screw on the reduced part. With
 100 two cutters provided at the upper end and on the under side with a lug. A recess cut into said cutter at the base of said lug as shown at G. Substantially as set forth.

Claim VIII.

The combination in an under-reamer with a round mandrel reduced at its lower end with a collar screwed on the same. With two
 105 cutters held in place with a lug on the under side and at its upper end by a plunger with an arrow shaped head. The said plunger is provided with a nut at its upper end. The said nut has a collar to engage with pin O. Substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses:

Witnesses:

O. E. Jones

N. A. May

Frederick William Jones

Div. Room 222.

Paper No. 1

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

L. C.

All communications —*ing* this ap-
plication should give the serial num-
ber, date of filing, title of invention,
and name of applicant.

DEPARTMENT OF THE INTERIOR.
UNITED STATES PATENT OFFICE,

Washington, October 6, 1902.

Mailed Oct. 6, 1902.

Frederick W. Jones,
Santa Paula,
California.

Please find below a communication from the
EXAMINER in charge of the application *of for*
"Under-reamer for Oil-Well Purposes," filed July
14, 1902, Serial No. 115,608.

F. I. ALLEN,
~~THOMAS EWING,~~
Commissioner of Patents.

The lettering upon the drawing does not cor-
respond with reference letters in the specification.
They should all be capitals or all small letters, and
should be alike in both places.

The word "holt" in line 43, should be corrected.

The tongue M referred to in line 55, should be
more fully described.

The pin O in line 59, is not shown in the drawing.

Claim 1 does not cover a complete combination.

The claims are all informal. Each should contain
a single sentence and contain the elements of a com-
plete combination. No action on the merits can be
given until the claims are so drawn and the elements
positively included.

As the applicant is apparently not familiar with

drawing claims he is advised to employ a competent attorney, skilled in Patent Office work, to prosecute his case.

A. P. SHAW,

M.E.P.

Ex. [880]

U. S. Patent Office,

Mar 16, 1903.

Amendt. A Paper No. 2.

Division 38.

Mail Room.

Mar. 14, 1903.

U. S. Patent Office.

Santa Paula, Calif., March 8, 1903.

Com. of Patents.

Dear Sir:

Ser. No. 115,608, filed July 14, 1902.

The examiner is in error when he says that Pin O in line 59 and in line 8 is not shown in the drawing. He says the claims are informal and the lettering is not alike. I would like to have all the claims as near alike like they are as possible, as each claim covers what I consider each part of the invention. Now what would the cost be for making a new drawing and rewriting the claims.

Please insert the following in the specifications:

In line 42 holt should (bearing).

In line 49 get should be (together)

In line 52 after Fig. 3 add in (at K.).

In line 55 after mandrel add in (A).

Following line 55 add in

A' (But is a part of mandrel A and gives a larger bearing for cutters.)

At the end of line 58 add in (The tapering threaded).

Resp't

FRED W. JONES. [881]

Div. Room 22.

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

L. C.

Paper No. 3.

All communications respecting this application should give the serial number, date of filing, title of invention, and name of applicant.

DEPARTMENT OF THE INTERIOR.
UNITED STATES PATENT OFFICE.

Washington, March 30, 1903.

Mailed Mar. 30, 1903.

Frederick W. Jones,
Santa Paula,
California.

Please find below a communication from the EXAMINER in charge of the application of for "Under-reamer for Oil-Well Purposes," filed July 14, 1902, Serial No. 115,608.

F. I. ALLEN,

~~THOMAS EWING,~~

Commissioner of Patents.

In response to the communication filed March 14, 1903:

The Office will change the lettering upon applicant's drawing to correspond with that used in the specification, upon the request of the applicant and the receipt of fifty cents. This request should be made in a separate communication. The Office, however, cannot redraw applicant's claims. As stated in the last Office Letter applicant is advised to secure the services of a competent Patent Attorney, to as-

sist him in redrawing his claims. A roster of registered attorneys entitled to practice before the Patent Office may be obtained upon application to the chief clerk for ten cents in currency.

A. P. SHAW,

Ex. [882]

Mail Room.

115,608 Paper No. 4

Nov. 30, 1903.

U. S. Patent Office.

Amdt B.

Santa Paula, Calif., Nov. 23, 1903.

Com. of Patents, Dear Sir:

Underreamer for Oil Well purposes, filed July 14, 1902, Ser. No. 115,608.

In answering to your communication of Oct. 6 and March 30, 1903, the Examiner in charge stated in his letters that the lettering upon the drawing does not correspond with the specifications.

I have looked them over carefully and do not see any errors therein.

If he will kindly point out what letters are wrong, and I will have them corrected.

Please cancel the previous claims and insert the

following in place of them.

B' Claim 1, In an Underreamer, the combination with a round mandrel reduced at its lower end, and the said reduced part threaded at its upper end, with a collar screwed thereon, Substantially as set forth.

Claim 2, In an Underreamer, the combination with a round mandrel reduced at its lower end, with two

seats, one on each side, extending part of the way of the said reduced part, with a slot extending the length of the seat and through the central of mandrel Substantially as set forth.

Claim 3, In an Underreamer, the combination with a round mandrel reduced at its lower end, with a collar screwed thereon, with a flat tongue ~~screwed thereon~~ extending across the lower end of the reduced part and below the collar, Substantially as set forth.
[883]

Claim 4. In an Underreamer, the combination with a round mandrel reduced at its lower end, with a collar screwed thereon, and a flat tongue extending across the reduced part and below the collar, and two cutters with a lug on each side to engage with the collar b, and tongue m, Substantially as set forth.

Claim 5. In *and* Underreamer, the combination with a round mandrel reduced at its lower end, with a collar screwed thereon, with two cutters engageing against collar and tongue, and extending below and made V shaped on the inside, Substantially as set forth.

Claim 6. In an underreamer, the combination with a round mandrel reduced at its lower end, with a collar screwed thereon, and two cutters fitting within the same, and each provided with a lug ~~to come in contact~~ on the inner side and at the upper end, and the said lug to come in contact with the arrow shaped head on plunger and to fit into mandrel, Substantially as set forth.

Claim 7. In an underreamer, the combination with a round mandrel reduced at its lower end, with

a collar screwed thereon, and two cutters provided at the upper end and on the *Under* side with a *Lug*, and a recess cut in said cutters at the base of said lug as shown at g, Substantially as set forth.

Resp't,

FRED W. JONES.

Claim 8. In an Underreamer, the combination with a round mandrel reduced at its lower end, with a collar screwed thereon, and two cutters provided with a lug on the inner side and a recess at the base of each lug and held in place by a plunger with an arrow shaped head and the plunger provided with a nut at its upper end, with a collar to engage with the top of the tapering, threaded pin o. Substantially as set forth. [884]

115,608. Paper No. 5.

Amdt. (drg.)

\$50¢ received

Nov. 30, 1903. MO.

Chief Clerk U. S. Patent Office.

Santa Paula, Calif., Nov. 24, 1903.

Underreamer for Oil Well purposes filed July 14, 1902, Ser. No. 115,608.

Please change the letters on the drawing to the same style as the letters on the specifications. Please find inclosed fifty cts. for same.

Resp't,

FRED W. JONES.

[Endorsed]: Jones, F. W. *C* U. S. Patent Office, Number 203,213. Received Nov. 30, 1903, Chief Clerk. Rec'd in Div. C, Nov. 30, 1903. Drawing

ordered Dec. 4, 03. Drawing corrected 50¢ Pd and to Examr. Dec. 12-03. Forward to Mail Room for Div. 38, Dec. 12, 03. Mail Room Transfer to Div. 38, 12.14.03. U. S. Patent Office, Dec. 14, 1903, Division 38. [885]

Div. Room 378.

Address only

"The Commissioner of Patents,
Washington, D. C.,"
and not any official by name.

Paper No. 6

All communications respecting this application should give the serial number, date of filing, title of invention, and name of applicant.

DEPARTMENT OF THE INTERIOR,
UNITED STATES PATENT OFFICE.

Washington, Dec. 18, 1903.

Mailed Dec. 18, 1903.

Frederick W. Jones,
Santa Paula,
Cal.

Please find below a communication from the EX-
your
AMINER in charge of the application of for Under-
reamer for Oil-Well Purposes, filed July 14, 1902,
Serial No. 115,608.

F. I. ALLEN,
~~THOMAS EWING,~~
Commissioner of Patents.

In response to amendment of Nov. 30, 1903:

Applicant is required to rewrite the last amend-
ment. This amendment should be directed to be
canceled and a new one written in accordance with
the directions given in Rule 45 of the Rules of Prac-
tice, noticing in particular that all interlineations
and erasures must be clearly referred to in the
margin and that there must be a wide margin re-
served on the left hand side of the page. No lead
pencil writing can be accepted by the office.

The drawing appears to be inaccurate. The construction of the reduced portion M is not clearly shown. It appears to the examiner that M. in Figs. 1 and 2 should be shown in cross-section or else "I" would not be visible. A view of the lower portion should be shown, taken at right angles to that shown in Figs. 1 and 2, to show the slot which is now not clearly shown. [886]

Claim 2 is objected to for the reason that the drawing does not show a slot arranged as set forth in the claim. Applicant should define what is meant by the term "seat." Is it the face of M or the chamber between M and the collar. The word "central" should be center (line 7) and "the" should be inserted after "of," same line.

Claims 1 and 3 do not appear to be consistent. Claim 1 includes a mandrel reduced at its lower end and from the rest of the claim it would appear that the element M was intended to be included as a portion of the reduced portion. In claim 3 the tongue appears to be a separate element from the reduced portion. Applicant cannot include one element twice in the same claim.

Applicant should clearly define the terms used in the claims in the specification so it will be clear what is meant. The drawing does not show the tongue arranged as set forth in the claim.

Claim 4 is objected to for the same reasons as claim 3, and also because "b" in lines 6 and 7, should be capital letters.

Claim 5 is objected to as the word "with" in line 4 should be canceled. The tongue referred to in line 5

is not included as an element of the claim as it should be. The letter "v" in line 6 should be V.

Claim 6 is objected to as the "head" referred to in line 9 is not included as an element of the claim. Line 10 appears incorrect as the slot is in the tongue and this element should be included to make a complete device.

Claim 7 is objected to as the word "under" in line 5, should be inner. The claim should set forth the same structure for the lugs to co-operate with. As the claims stand they have no function.

Claim 8 can not be considered as it appears on a separate sheet of paper after the signature of the applicant.

Applicant is again advised to employ a competent attorney to prosecute his application.

A. P. SHAW,
Ex.

M. E. P. [887]

Serial No. 115,608. Paper No. 7.

Authority for copies.

Filed Aug. 21, 1915.

Bakersfield, Cal., Aug. 14th, 1915.

Commissioner of Patents,
Washington, D. C.

Dear Sir:

On or about July 14, 1902, I filed an application for U. S. Patent on Underreamer for Oil Well Purposes, the serial number of which I believe was 115,608.

Kindly furnish Frederick S. Lyon, of Los Angeles, California, a certified copy of the File Wrappers and

Contents of such application, including copies of the drawings and all records in connection therewith, at the cost and expense of said Frederick S. Lyon as he shall desire and order, and oblige

Yours very truly,

FRED W. JONES,

Formerly of Santa Paula, California. [888]

THIS MEMORANDUM SHOULD UNDER NO CIRCUMSTANCES BE DESTROYED OR OTHERWISE PERMANENTLY REMOVED FROM THE FILE.

~~Serial No.~~

Application of F. W. Jones,
for Letters patent on
received incomplete

Petition:

Oath: form sent. new req'd, April 25, 02.

Marked copy of rules sent.

Specification: reqr. Dec. 23, 1901.

Again req'd Apr. 25,/02.

Drawing:

Fee:

General:

The following are the numbers of the Chief Clerk's Letters relating to this case:

- | | |
|-----|-----|
| (1) | (4) |
| (2) | (5) |
| (3) | (6) |

[889]

Fig. 2.

Fig. 1.

Fig. 3.

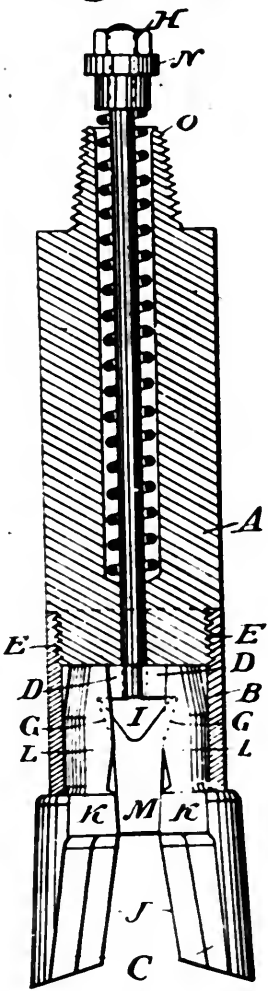
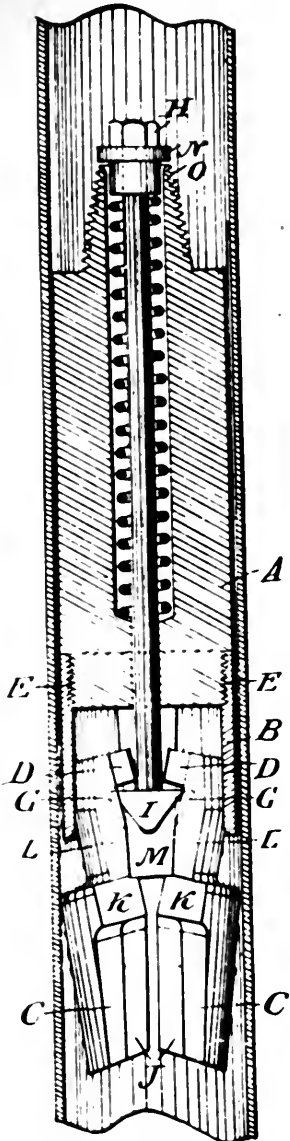
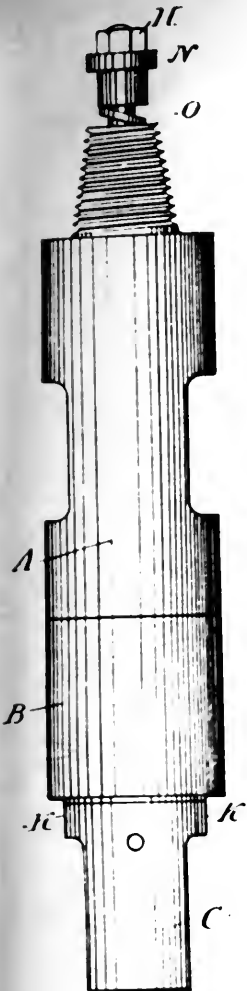
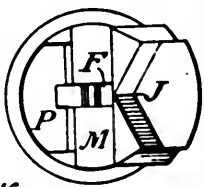
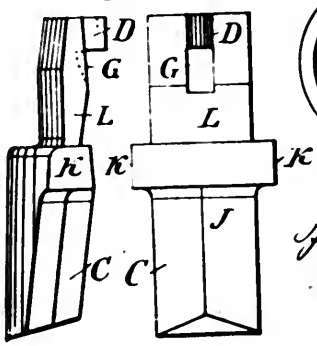


Fig. 1;

Fig. 5.



Witnesses:
L. May.

Inventor:
Frederick William Jones



1901.

CONTENTS:

166. Artesian & Oil Wells.

Print.

6 Reamers.

½ Application Papers OK.

1. Letter Oct. 6, 1902.
2. Amendt. A, March 14, 1903.
3. Letter March 30-03.
4. Amdt. B, Nov. 30-03.
5. Amdt. (drg) Nov. 30-03.
6. Letter, Dec. 18-03.
7. Authority for copies, Aug. 21, 1915.

TITLE:

Improvement in.

Note: [Photograph of drawings appears in original on last page just prior to endorsement].

[Endorsed]: A-4—Eq. Consol. with B-62—Eq. Elihu C. Wilson vs. Union Tool Co. Filed Feb. 25, 1916. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy. File Wrapper and Contents. Appln. Frederick William Jones for Patent. Defts. Ex. Filed Mar. 9, 1916. Wm. M. Van Dyke, Clerk. Floyd S. Sisk, Deputy. [890]

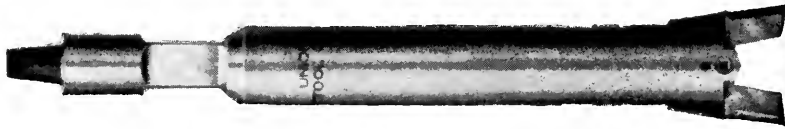
DOUBLE "F" STYLE UNDER-REAMERS

(Patented)

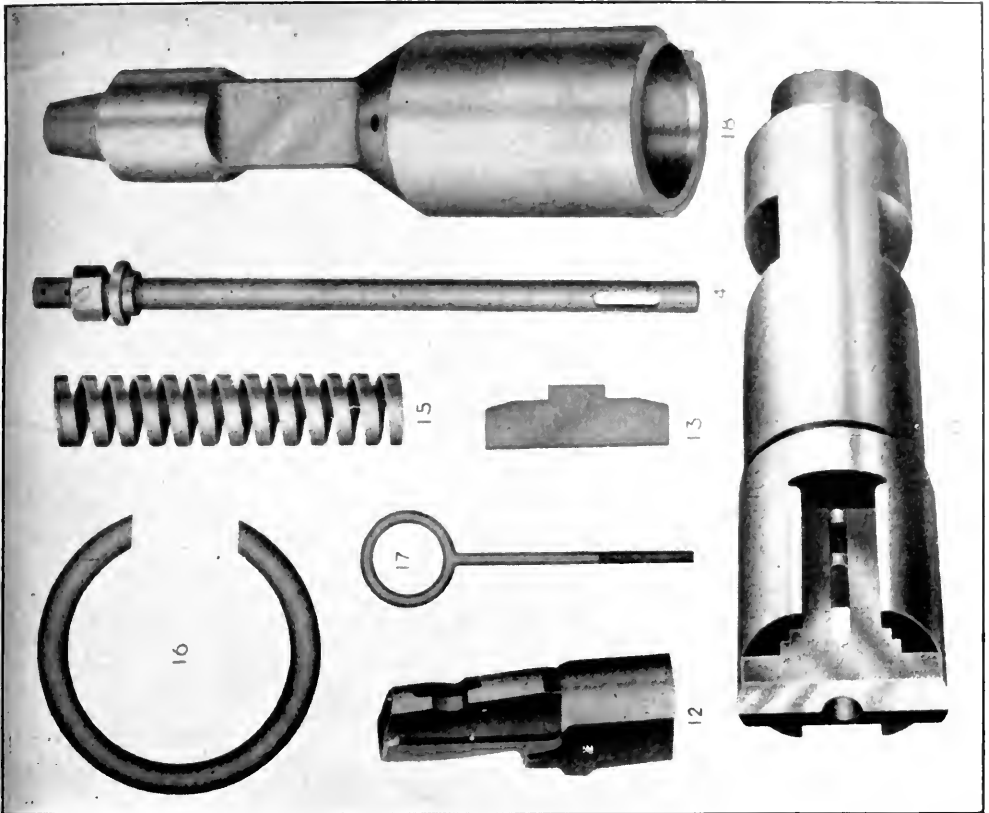
Size, Inches	Size Pin, Inches	Weight, Pounds
4 1/4	1 5/8 x 2 1/2 - 8	165
4 1/2	1 3/4 x 2 3/4 - 8	180
5	2 x 3 - 7	215
5 5/8	2 x 3 - 7	280
6 1/4	2 x 3 - 7	350

Note.—Under-reamer body is made long enough to stand recutting in case cutters become too loose by extreme wear.

The Double "F" style under-reamer is especially adapted for the smaller sizes of heavy weight casing, the essential feature being the increased strength of both body and cutters



When ordering state size of pin, style of taper, number of threads to inch (flat or sharp), size of wrench square, and SIZE and WEIGHT OF CASING in which tool is to be used



DRILLING TOOLS

CUTTERS AND PARTS FOR DOUBLE "D" STYLE UNDER-REAMERS

Cutters (Set of 2)

Size Inches	Weight Pounds	Size Inches	Weight Pounds
6 1/4	30	10	134
6 5/8	34	11 5/8	164
7	46	12 1/2	206
7 5/8	60	13 1/2	236
8 1/4	76	15 1/2	280
9	88	18	310
9 5/8	105	20	360

Parts

Part Number	Number Required	Name
11	1	Body
12	2	Cutters
13	1	Key
14	1	Mandrel
15	1	Spring
16	1	Setting Ring
17	1	Eye Bolt
18	1	Sub

When ordering extra cutters or parts, state serial number stamped on reamer square, and SIZE and WEIGHT of CASING in which cutters are to be used.

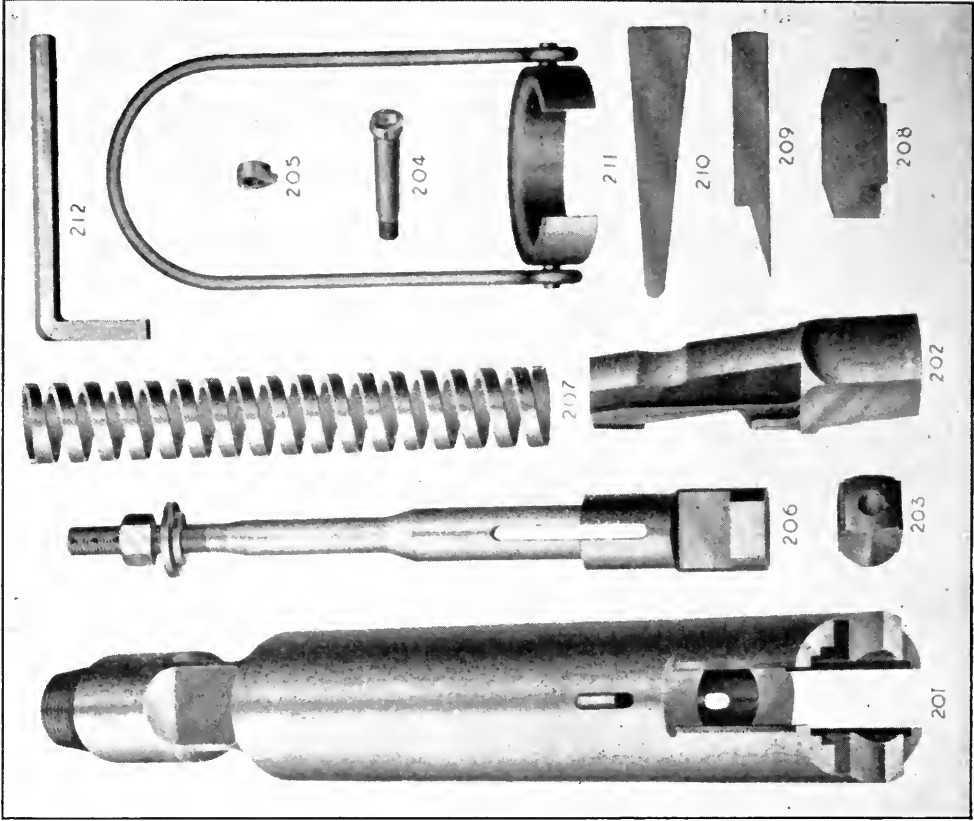
DRILLING TOOLS
CUTTERS AND PARTS FOR
DOUBLE "F" STYLE UNDER-REAMERS

Cutters (Set of 2)

Size, Inches	Weight, Pounds
4 1/4	12
4 1/2	15
5	21
5 5/8	30
6 1/4	38

Parts

Part Number	Number Required	Name
201	1	Body
202	2	Cutter
203	1	Tongue
204	1	Tongue Pin
205	1	Tongue Pin Nut
206	1	Mandrel
207	1	Spring
208	1	Mandrel Key
209	1	Wedge
210	1	Pilot Key
211	1	Setting Tool
212	1	Tongue Pin Wrench



When ordering extra cutters or parts, state serial number stamped on reamer square and SIZE and WEIGHT OF CASING in which cutters are to be used.

DRILLING TOOLS

DOUBLE "D" STYLE UNDER-REAMER DRESSING TOOLS

Gauge



One required for each size cutter.

T-140

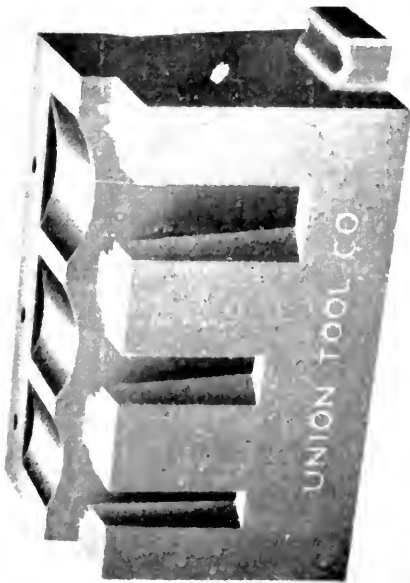
Dressing Block Gauge Pin



T-141

Weight 5 Pounds

One required for each dressing block



T-142

Tongs



T-143

For holding cutters while being dressed

For Size Cutters, Inches	9 1/4	9 3/8	7	7 1/8	9
Weight, Pounds	10	10	12	12	16
For size Cutters, Inches	10	11 1/8	12 1/8	13 1/4	15
Weight, Pounds	22	28	32	35	45

Dressing Blocks

Used for Dressing Under-reamer Cutters

Part Number	Size Cutters, Inches	Weight, Pounds
G-2388	9 1/4, 9 3/8 and 10	20
G-2389	7, 7 1/8, 9 1/8 and 11 1/8	20
G-2389	12 1/2, 13 1/2 and 15 1/2	26

Note. Dressing Blocks for 18 and 20 inch under-reamers are furnished on order.

[Endorsement on Catalog]: Wilson vs. Union Tool Co. A-4, B-62 Consolidated; U. S. Dist. Court, So. Dist. of Cal., So. Division. Complainant's Exhibit Defendant's Catalog, and particularly pages 28 and 29 thereof. Leo Longley. Aug. 30, 1915. [891]

United States District Court, Southern District of California, Southern Division.

IN EQUITY—NOS. A-4—B-62. “A-4—CONSOLIDATED.”

ELIHU C. WILSON,

Complainant,

vs.

UNION TOOL COMPANY,

Defendant.

Stipulation.

Defendant having taken an appeal to the United States Circuit Court of Appeals for the 9th Circuit, from the Interlocutory Decree in this suit, it is hereby stipulated and agreed by and between the parties to the above-entitled suit as follows:

That as a part of the transcript of record on appeal to be certified by the clerk of this court to said United States Circuit Court of Appeals for the 9th Circuit upon Defendant's said appeal the same shall include the following in place of a statement of evidence under Equity Rule 75:

A true and correct copy of all depositions in question and answer form, including a copy of all proceedings had during the taking of such depositions as the

same appear upon the record of this court, omitting only the formal certificates of the respective notaries.

This stipulation is made to save expense and to expedite said appeal, and it is agreed that in case the said appeal is sustained and said interlocutory decree reversed, or for any other reason appellant is adjudged by said United States Circuit Court of Appeals to recover its costs on said appeal, that twenty-five per cent (25%) of the cost of certifying such depositions and testimony, and of printing the same in the said [892] U. S. Circuit Court of Appeals, shall be deducted from the taxable cost, it being the intent hereof that it is the judgment of the respective parties that said 25% will cover excess in the cost of such certification over and above any condensed statement possible under Equity Rule 75, and will in the end save expense to both parties and will expedite the hearing and determination of this appeal.

Dated Los Angeles, California, November 2d, 1916.

RAYMOND IVES BLAKESLEE,

Solicitor for Complainant.

FREDERICK S. LYON,

Solicitor for Defendant.

Approved:

BLEDSOE,

District Judge.

[Endorsed]: No. A-4—Consolidated. United States District Court, Southern District of California, Southern Division. Elihu C. Wilson, Complainant, vs. Union Tool Company, Defendant. In Equity.

Stipulation. Filed Nov. 2, 1916. Wm. M. Van Dyke, Clerk. By R. S. Zimmerman, Deputy Clerk. Frederick S. Lyon, 504-7 Merchants Trust Building, Los Angeles, Cal., Solicitor for Defendant. [893]

UNITED STATES OF AMERICA.

*District Court of the United States, Southern District
of California, Southern Division.*

Clerk's Office.

Nos. A-4—B-62—"A-4 CONSOLIDATED."

ELIHU C. WILSON,

Complainant,

vs.

UNION TOOL COMPANY,

Defendant.

Praeceptum for Transcript.

To the Clerk of said Court:

Sir: Please issue as a Transcript of Record on Defendant's appeal a true and correct copy of each of the following, all under due certificate:

The Original Bill of Complaint in A-4, filed Feb. 14, 1913.

Defendant's Answer, Filed April 5th, 1913.

Motion to Strike Counterclaim.

Minute Order of July 14, 1913, Striking Out Counterclaim.

The Original Bill of Complaint in B-62, filed Dec. 28th, 1914.

Defendant's Answer in B-62, filed March 17, 1915.

Amended Bill of Complaint in B-62.

Minute Order of Feb. 15, 1915 in B-62; also same in A-4.

Minute Order of Feb. 8, 1915 in B-62, and denying motion to dismiss.

Minute Order of April 19, 1915 in A-4; also same in B-62.

Complainant's Motion to Amend, filed Jan. 30, 1915, in B-62.

Complainant's Motion to Consolidate, filed in A-4, Jan. 2, 1915; same in B-62 filed Jan. 9, 1915.

Stipulation filed June 31, 1915, as to amendments of answers in A-4 and B-62. [894]

Interlocutory Decree filed September 8, 1916.

Opinion of Court.

Order Allowing Rehearing.

Opinion of Court on Rehearing.

Petition for Order Allowing Appeal.

Order Allowing Appeal.

Assignments of Error.

Bond on Appeal.

All paper exhibits except "Complaint's Exhibits F. W. Jones Reamer Photos";

—and a copy of all depositions taken and filed on behalf of the parties as per stipulation and Order of Court.

FREDERICK S. LYON,

Solicitor for Defendant, Union Tool Company.

[Endorsed]: No. A-4-B-62 "A-4 Consolidated."
U. S. District Court, Southern District of California,
Southern Division. Elihu C. Wilson, Complainant,
vs. Union Tool Company, Defendant. Praecipe for
Transcript. Received a Copy of the Within This

2d Day of November, 1916. Raymond Ives Blakeslee, Solicitor for Complainant. Filed Nov. 4, 1916. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk. [895]

UNITED STATES OF AMERICA.

District Court of the United States, Southern District of California, Southern Division.

Clerk's Office.

IN EQUITY—No. A-4—B-62 CONSOLIDATED.

ELIHU C. WILSON

vs.

UNION TOOL COMPANY.

Amended Praecept for Transcript of Record.

To the Clerk of said Court:

Sir: Please issue as a part of the transcript on appeal only copies of pages 28 and 29 as a copy of "Complainant's Exhibit Defendant's Catalog and particularly pages 28 and 29 thereof."

FREDERICK S. LYON,

Solicitor for Defendant.

[Endorsed]: In Equity. A. Consolidated. No. A-4 — B-62—Cons. U. S. District Court, Southern District of California, So. Div. E. C. Wilson v. Union Tool Co. Amended Praecept for Copy Exhibit as Part Transcript of Record on Appeal. Received a copy of the within this 2d day of Jany, 1917. Raymond Ives Blakeslee, Solicitor for Complainant. Filed Jan. 2, 1917. Wm. M. Van Dyke, Clerk. Leslie S. Colyer, Deputy Clerk. [896]

In the District Court of the United States, in and for the Southern District of California, Southern Division.

N . A-4 and B-62 CONSOLIDATED.

ELIHU C. WILSON,

Complainant,

vs.

UNION TOOL COMPANY,

Defendant.

Certificate of Clerk U. S. District Court to Transcript of Record.

I, Wm. M. Van Dyke, Clerk of the District Court of the United States of America, in and for the Southern District of California, do hereby certify the foregoing eight hundred and ninety-six (896) typewritten pages, numbered from 1 to 896 inclusive, and comprised in two (2) volumes, to be a full, true and correct copy of the Bill of Complaint in case A-4, Answer in case A-4, Notice of Motion and Motion to Strike Counterclaim, in case A-4, Minute Order Striking Out Counterclaim in case A-4, Complainant's Motion to Consolidate in case A-4, Bill of Complaint in case, B-62, Complainant's Motion to Consolidate in case, B-62, Complainant's Motion to Amend (with Amended Bill attached) in case B-62, Minute Order of February 8, 1915, in case B-62, Minute Order of February 15, 1915, in each of the cases A-4 and B-62, Answer in B-62, Minute Order of April 19, 1915, in each of the cases A-4 and B-62, Stipulation as to Amendments of Answers in both above-mentioned cases, Opinion of Court (Memoran-

dum Decision on Merits) in consolidated case, Order Allowing Rehearing, Opinion of Court on Rehearing (Memorandum on Ruling on Petition for Rehearing), Interlocutory Decree, Proofs on behalf of respective parties, Paper Exhibits, Stipulation in regard to record on appeal, Praeceptum and Amended Praeceptum, said last-mentioned Opinions, Order, Decree, Proofs, Exhibits, Stipulation, Praeceptum and Amended Praeceptum having been filed in the consolidated case, [897] and that all of said copies hereinbefore enumerated, together with the certified transcript of a portion of record heretofore, to wit, on January 6, 1917, issued out of this office and transmitted to the clerk of the Circuit Court of Appeals, constitute the transcript of the record on appeal in the above-entitled cause as specified in the Praeceptum and Amended Praeceptum aforesaid filed in my office on behalf of the appellant, defendant herein, by his solicitor of record.

I do further certify that the cost of said record is \$533.80, the amount whereof has been paid me by the Union Tool Company, the appellant.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the seal of said District Court of the United States of America, in and for the Southern District of California, Southern Division, this 9th day of January, in the year of our Lord one thousand nine hundred and seventeen, and of our Independence the one hundred and forty-first.

[Seal]

WM. M. VAN DYKE,

Clerk of the District Court of the United States of America, in and for the Southern District of California. [898]

[Endorsed]: No. 2918. United States Circuit Court of Appeals for the Ninth Circuit. Union Tool Company, Appellant, vs. Elihu C. Wilson, Appellee. Transcript of the Record. Upon Appeal from the United States District Court for the Southern District of California, Southern Division.

Filed January 11, 1917.

F. D. MONCKTON,
Clerk of the United States Circuit Court of Appeals
for the Ninth Circuit.

By Paul P. O'Brien,
Deputy Clerk.



United States
Circuit Court of Appeals

For the Ninth Circuit.

UNION TOOL COMPANY,

Appellant,

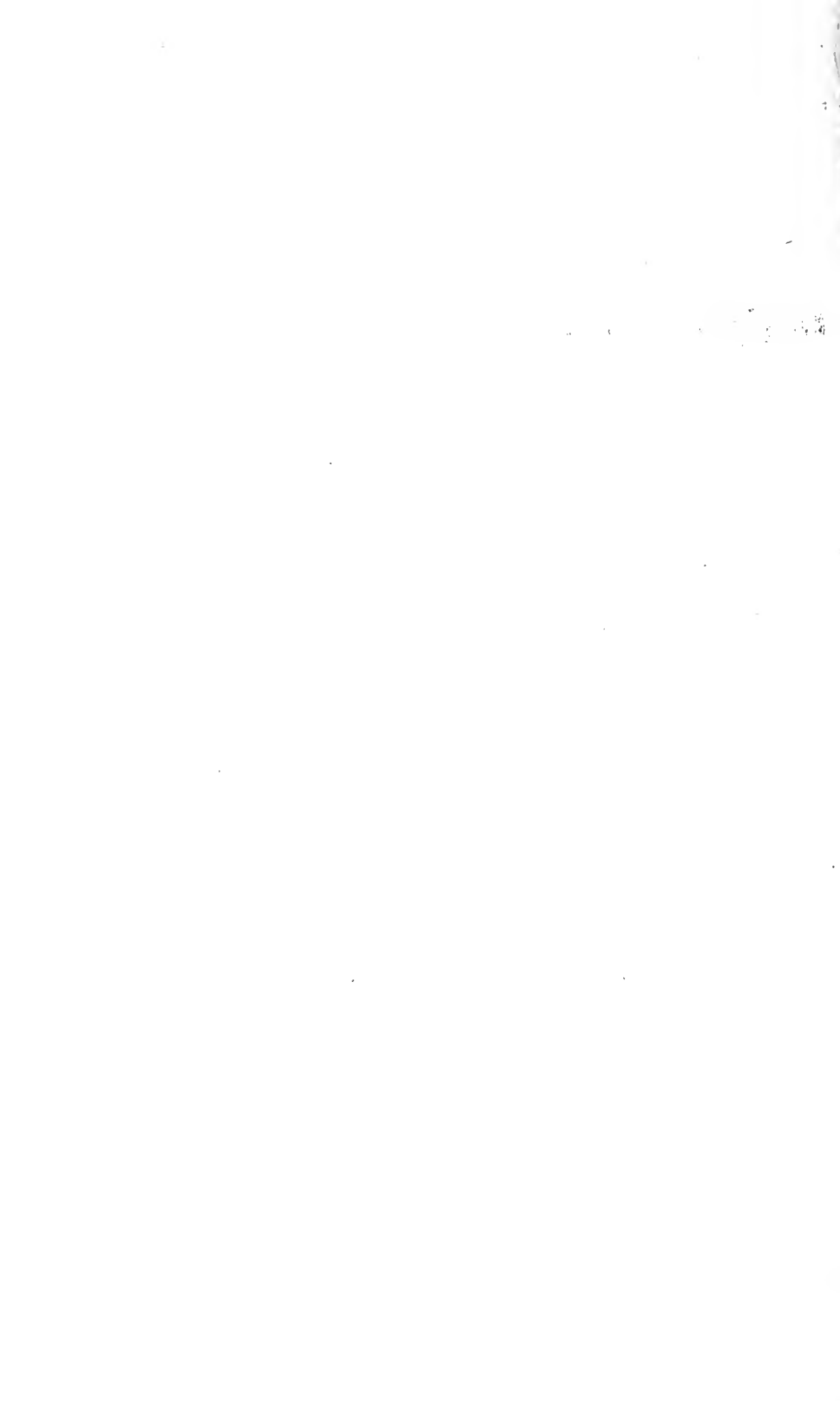
vs.

ELIHU C. WILSON,

Appellee.

PORTION OF THE TRANSCRIPT OF RECORD.

Upon Appeal from the United States District Court
for the Southern District of California,
Southern Division.



Citation.

UNITED STATES OF AMERICA,—ss :

The President of the United States to Elihu C. Wilson, GREETING :

You are hereby cited and admonished to be and appear at a United States Circuit Court of Appeals for the Ninth Circuit, to be holden at the city of San Francisco, in the State of California, within thirty (30) days from the date hereof, pursuant to an order allowing an appeal entered and of record in the clerk's office of the United States District Court for the Southern District of California, Southern Division, in suit in Equity known as No. A-4—Consolidated therein, and wherein you are complainant and appellee and Union Tool Company is defendant and appellant, to show cause, if any there be, why the Interlocutory decree of said Court made and entered therein, ordering, adjudging and decreeing that an injunction be issued restraining and enjoining defendant and appellant as in said Interlocutory Decree set forth, and adjudging that you recover of said defendant and appellant certain money as costs, should not be corrected, and why speedy justice should not be done to the parties in that behalf.

Dated September 14th, 1916.

EDWARD E. CUSHMAN,
United States District Judge.

Due service and receipt of a copy of the foregoing Citation is hereby admitted this 14th day of September, 1916.

RAYMOND IVES BLAKESLEE,
Solicitor for Complainant and Appellee.

[Endorsed]: No. A-4—Cons. U. S. District Court, Southern District of California, Southern Division. Elihu C. Wilson, Complainant and Appellee vs. Union Tool Company, Defendant and Appellant. Citation. Filed. Sep. 14, 1916. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk.

United States District Court, Southern District of California, Southern Division.

IN EQUITY—NO. A-4—B-62—CONSOLIDATED.

ELIHU C. WILSON,

Complainant,

vs.

UNION TOOL COMPANY,

Defendant.

Petition for Appeal.

The defendant in the above-entitled suit conceiving itself aggrieved by the Interlocutory Decree made and entered in the above-entitled suit on September 8, 1916, granting an injunction, as in said Interlocutory Decree set forth, against defendant, comes now by Frederick S. Lyon, Esq., its solicitor and counsel, and petitions said Court for an order allowing defendant to prosecute an appeal from said Interlocutory Decree to the Honorable The United States Circuit Court of Appeals for the Ninth Circuit under and according to the laws of the United States in that behalf made and provided, and also for an order fixing the sum of security which the defendant shall

give and furnish upon said appeal, the same to operate as a supersedeas of and to suspend the issuance of any injunction ordered by said Interlocutory Decree, and as a supersedeas of the judgment for costs provided for in said Interlocutory Decree, pending the determination of such appeal by said United States Circuit Court of Appeals for the Ninth Circuit.

FREDERICK S. LYON,
Solicitor for Defendant. [1]

[Endorsed]: No. A-4—B-62—Consolidated. United States District Court, Southern District of California, Southern Division. Elihu C. Wilson, Complainant, vs. Union Tool Company, Defendant. In Equity. Petition for Appeal. Filed Sep. 11, 1916. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk. Frederick S. Lyon, 504-7 Merchants Trust Building, Los Angeles, Cal., Solicitor for Defendant. [2]

*United States District Court, Southern District of
California, Southern Division.*

IN EQUITY—NO. A-4—B-62—CONSOLIDATED.

ELIHU C. WILSON,

Complainant,

vs.

UNION TOOL COMPANY,

Defendant.

Assignments of Error.

Comes now defendant above named and specifies

and assigns the following as the errors upon which it will rely upon its appeal to the United States Circuit Court of Appeals for the Ninth Circuit from the Interlocutory Decree of September 8th, 1916, granting an injunction against defendant as in said Interlocutory Decree set forth:

That said District Court of the United States for the Southern District of California, Southern Division, in making and entering said decree erred as follows:

1. In adjudging and decreeing that claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 19, or either or any thereof, of the Wilson Patent in suit No. 827,595 were or are good or valid in law.

2. In adjudging or decreeing that either claim 9 or claim 19 of said letters patent No. 827,595 was, has been or is infringed by defendant in any manner whatsoever, either by all or any of the underreamers manufactured or sold or leased by defendant like either of the exhibits referred to in paragraph 4 or 5 of said Interlocutory Decree or in any manner or by any device manufactured, used, sold or leased by defendant. [3]

3. In not adjudging and decreeing that defendant has not infringed either said claim 9 or said claim 19 in any manner whatsoever.

4. In not ordering, adjudging and decreeing that the Bill of Complaint in suit No. A-1 be dismissed.

5. In not ordering, adjudging and decreeing that the Bill of Complaint in suit No. B-62 be dismissed.

6. In not ordering, adjudging and decreeing that complainant was bound by the election made in suit

No. A-4 and could not thereafter maintain another suit against this defendant for the same cause of action, and that the pendency of the suit No. A-4 was a bar to the maintaining of the suit No. B-62 as to any of the acts or things charged in said suit No. A-4 to be an infringement by defendant of complainant's alleged patent or invention.

7. In ordering the suits Nos. A-4—B-62 be consolidated.

8. In ordering, adjudging and decreeing that said suits Nos. A-4—B-62 be consolidated, joined or merged together, or that the same constitute one unitary cause of action, or that by such consolidation defendant was thereby charged with infringement of claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 19 of said patent No. 827,595.

9. In not ordering, adjudging and decreeing that each of said suits and such consolidation thereof be dismissed.

10. In not ordering, adjudging and decreeing that defendant had not in any manner infringed upon any of the claims of the so-called Wilson Patent No. 827,595.

11. In denying and not granting defendant's motion to dismiss the suit No. B-62 on the ground of the pendency undetermined of the suit No. A-4.

12. In not ordering, adjudging and decreeing that claims 9 and 19 of said patent No. 827,595 were void for want [4] of invention and as anticipated.

13. In ordering, adjudging and decreeing that defendant be restrained or enjoined either as set forth in paragraph V of said Interlocutory Decree or otherwise or at all.

In order that the foregoing Assignments of Error may be and appear of record, defendant presents the same to the Court and prays that such disposition may be made thereof as is in accordance with the laws of the United States.

WHEREFORE, the said defendant prays that the said Interlocutory Decree of this Court made and entered on Sept. 8th, 1916, and the injunction thereby granted and ordered be reversed and set aside, and the said Court be directed to enter a decree ordering and adjudging the said letters patent to be void and not to have been infringed by this defendant, and that the Bills of Complaint in said suits Nos. A-4—B-62 and each thereof be dismissed at the cost and expense of complainant.

All of which is respectfully submitted.

FREDERICK S. LYON,
Solicitor for Defendant.

[Endorsed]: No. A-4—B-62—Consolidated. United States District Court, Southern District of California, Southern Division. Elihu C. Wilson, Complainant, vs. Union Tool Company, Defendant. In Equity. Assignments of Error. Filed Sep. 11, 1916. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk. Frederick S. Lyon, 504-7 Merchants Trust Building, Los Angeles, Cal., Solicitor for Defendant. [5]

*United States District Court, Southern District of
California, Southern Division.*

IN EQUITY—No. A-4—B-62—CONSOLIDATED.

ELIHU C. WILSON,

Complainant,

vs.

UNION TOOL COMPANY,

Defendant.

Order Allowing Appeal and Fixing Amount of Bond.

In the above-entitled suit, the defendant having filed its petition for an order allowing an appeal from the Interlocutory Decree of this Court made and entered in this suit on September 8, 1916, granting an injunction against defendant, together with Assignments of Error:

Now, on motion of Frederick S. Lyon, Esq., solicitor for defendant, it is ordered that said appeal be and hereby is allowed to defendant to the United States Circuit Court of Appeals for the Ninth Circuit from said Interlocutory Decree granting and allowing an injunction against defendant, and that the amount of defendant's bond on said appeal be and the same is hereby fixed in the sum of twenty-five thousand dollars, the same to act as a superseas of any judgment for costs and disbursements entered against defendant in accordance with said decree and as a supersedeas of and to suspend the issuance of any injunction against defendant as in said Interlocutory Decree ordered, pending the determination of said appeal by said United States Circuit Court of Appeals for the Ninth Circuit.

It is further ordered that upon the filing of such security a certified transcript of the records and proceedings herein, in accordance with the statutes and the Equity Rules, [6] be forthwith transmitted to said United States Circuit Court of Appeals for the Ninth Circuit.

Dated September 11th, 1916.

EDWARD E. CUSHMAN,
District Judge.

[Endorsed]: No. A-4-B-62—Consolidated. United States District Court Southern District of California, Southern Division. Elihu C. Wilson, Complainant, vs. Union Tool Company, Defendant. In Equity. Order Allowing Appeal and Fixing Amount of Bond. Filed Sep. 11, 1916. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk. Frederick S. Lyon, 504-7 Merchants Trust Building. Los Angeles, Cal. Solicitor for Defendant. [7]

Approved as to form, 9/14/16.
RAYMOND IVES BLAKESLEE.

*United States District Court, Southern District of
California, Southern Division.*

IN EQUITY—No. A-4-B-62—Consolidated.
ELIHU C. WILSON,
Complainant,
vs.
UNION TOOL COMPANY,
Defendant.

Bond on Appeal.

KNOW ALL MEN BY THESE PRESENTS: That the Hartford Accident and Indemnity Co., a corporation of the State of Connecticut, and duly licensed to transact business in the State of California, is held and firmly bound unto Elihu C. Wilson, plaintiff in the above-entitled suit in the penal sum of twenty-five thousand (\$25,000) dollars, to be paid to the said Elihu C. Wilson, his heirs, assigns and legal representatives, for which payment, well and truly to be made, the Hartford Accident and Indemnity Co., binds itself, its successors and assigns firmly by these presents.

Sealed with its corporate seal and dated this 12th day of September, 1916.

The condition of this obligation is such that whereas the Union Tool Company, defendant in the above-entitled suit, is about to take an appeal to the United States Circuit Court of Appeals for the Ninth Circuit to reverse the Interlocutory Order or Decree made, rendered and entered on Sept. 8th, 1916, by the District Court of the United States for the Southern District of California, Southern Division, in the above-entitled cause, ordering, adjudging and decreeing that defendant be restrained and enjoined as in said Interlocutory Decree set forth.

And whereas said District Court of the United States [8] for the Southern District of California, Southern Division, has ordered and directed that said Injunction be suspended and the effect thereof stayed, during the pendency of said appeal, upon condition that the defendant give security that

it will well and truly pay to the complainant, Elihu C. Wilson, his heirs, assigns and legal representatives, all damages and profits which may be found or assessed against said defendant by reason of the suspension and staying of said injunction during the pendency of said appeal;

Now, therefore, the condition of this obligation is such that if the above-named defendant shall prosecute its said *said* appeal to effect and answer all costs which may be adjudged against it if it fail to make good its said appeal and if it shall pay to said Elihu C. Wilson, his heirs, assigns and legal representatives, all damages and profits which may be found or assessed against it by reason of the suspension and staying of said injunction, this obligation shall be void; otherwise to remain in full force and effect.

HARTFORD ACCIDENT AND INDEMNITY COMPANY.

[Seal]

By P. H. GRIFFITH,
Attorney in fact.

State of California,
County of Los Angeles,—ss.

On this 12th day of September, in the year nineteen hundred and sixteen, A. D., before me, Ethel M. Cooke, a notary public in and for the said county of Los Angeles, State of California, residing therein, duly commissioned and sworn, personally appeared P. H. Griffith, personally known to me to be the person described in and whose name he subscribed to the within instrument, as the attorney in fact of Hartford Accident and *and* acknowledged to me

that he subscribed the name of Hartford Accident thereto as surety and his own name as attorney in fact. [9]

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal in said county the day and year in this certificate first above written.

[Seal Indemnity Company and Indemnity Company.]

ETHEL M. COOK,

Notary Public in and for Los Angeles County, State of California.

My commission expires Sept. 7, 1919.

[Endorsed]: No. A-4-B-62—Consolidated. United States District Court, Southern District of California, Southern Division. Elihu C. Wilson, Complainant, vs. Union Tool Company, Defendant. In Equity. Bond on Appeal. Approved Sept. 14, 1916. Edward E. Cushman, District Judge. Filed Sept. 14, 1916. Wm. M. Van Dyke, Clerk. By Chas. N. Williams, Deputy Clerk. Frederick S. Lyon, 504-7 Merchants Trust Building, Los Angeles, Cal., Solicitor for Defendant. [10]

*In the District Court of the United States, in and for
the Southern District of California, Southern
Division.*

No. A-4—B-62—Eq.

UNION TOOL COMPANY,

Appellant,

vs.

ELIHU C. WILSON,

Appellee.

I, Wm. M. Van Dyke, Clerk of the District Court of the United States of America, in and for the Southern District of California, do hereby certify the foregoing ten (10) pages, to be a full, true and correct copy of Petition for Appeal, Assignments of Error, Order Allowing Appeal and Fixing Amount of Bond, and Bond on Appeal in the above and therein entitled cause, and that said copies constitute a portion of the transcript of record on appeal in the case entitled as above, said portion of the transcript, together with the original Citation, hereto attached, being forwarded to the Clerk of the United States Circuit Court of Appeals for the Ninth Circuit for filing in the office of said clerk in advance of the remainder of said transcript at the direction of Frederick S. Lyon, Esq., solicitor for appellant, and the remainder will follow in separate volumes.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the District Court of the United States of America, in and for the Southern District of California, Southern Division, this 6th day of January, in the year of our Lord,

one thousand nine hundred and sixteen, and of our Independence, the one hundred and forty-first.

[Seal] WM. M. VAN DYKE,
Clerk of the District Court of the United States of
America, in and for the Southern District of
California. [11]

[Endorsed]: No. 2918. United States Circuit Court of Appeals for the Ninth Circuit. Union Tool Company, Appellant, vs. Elihu C. Wilson, Appellee. Portion of the Transcript of the Record. Upon Appeal from the United States District Court for the Southern District of California, Southern Division. Filed January 8, 1917.

F. D. MONCKTON,
Clerk of the United States Circuit Court of Appeals
for the Ninth Circuit.

By Paul P. O'Brien,
Deputy Clerk.

*In the United States Circuit Court of Appeals for
the Ninth Circuit.*

UNION TOOL COMPANY,

Appellant,

vs.

ELIHU C. WILSON,

Appellee.

**Order Extending Time to January 3, 1917, to File
Record and Docket Cause.**

Good cause appearing therefor, it is hereby ordered that the time heretofore allowed said appellant to docket said cause and file the record thereof with the clerk of the United States Circuit Court of Appeals for the Ninth Circuit be, and the same hereby is, enlarged and extended to and including the 3d day of January, 1917.

Dated Los Angeles, California, September 14th, 1916.

EDWARD E. CUSHMAN,
United States District Judge.

[Endorsed]: No. —. United States Circuit Court of Appeals for the Ninth Circuit. Union Tool Company, Appellant, vs. Elihu C. Wilson, Appellee. Order Under Rule 16 Enlarging Time to January 3, 1916 to File Record Thereof and to Docket Case. Filed Oct. 2, 1916. F. D. Monckton, Clerk.

*United States Circuit Court of Appeals for the Ninth
Circuit.*

2 CASES CONSOLIDATED.

UNION TOOL COMPANY,

Appellant,

vs.

ELIHU C. WILSON,

Appellee.

**Order Extending Time to File Record and Docket
Cause to February 1, 1917.**

Good cause appearing therefor, it is hereby ordered that the time within which appellant in the above-entitled action may file record and docket cause in the United States Circuit Court of Appeals for the Ninth Circuit be, and the same hereby is extended to and including the 1st day of February, 1917.

Los Angeles, California, December 22, 1916.

ROSS,

Circuit Judge.

[Endorsed]: 2 Cases Consolidated. No. ——. United States Circuit Court of Appeals for the Ninth Circuit. Union Tool Company, Appellant, vs. Elihu C. Wilson, Appellee. Order Extending Time to File Record and Docket Cause to February 1, 1917. Filed Dec. 27, 1916. F. D. Monckton, Clerk.

No. 2918. United States Circuit Court of Appeals for the Ninth Circuit. Two Orders Under Rule 16 Enlarging Time to February 1, 1917, to File Record Thereof and to Docket Case. Refiled Jan. 8, 1917. F. D. Monckton, Clerk.

*In the United States Circuit Court of Appeals for
the Ninth Circuit.*

No. 2918.

UNION TOOL COMPANY,

Appellant,

vs.

ELIHU C. WILSON,

Appellee.

**Stipulation Re Defendant's Exhibit Bole Patent and
Defendant's Double Patent No. 1, etc.**

It is hereby stipulated and agreed that the attached are true and correct copies respectively of the Double Patent No. 734,833 introduced in evidence as "Defendant's Exhibit, Double Patent No. 1" and of the Bole Patent No. 1,080,135, introduced in evidence as "Defendant's Exhibit, Bole Patent"; that this stipulation and the attached exhibits be filed in the above-entitled court in this cause, as a part of the Transcript of Record on Appeal with the same force and effect as though included within the return and certificate of the Clerk of the District Court of the United States for the Southern District of California, to avoid the necessity of a Writ of Certiorari for diminution of the record, said exhibits having been omitted from said transcript by error.

FREDERICK S. LYON,

Solicitor for Appellant.

RAYMOND I. BLAKESLEE,

Solicitor for Appellee.

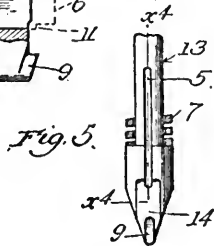
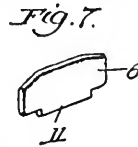
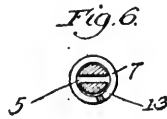
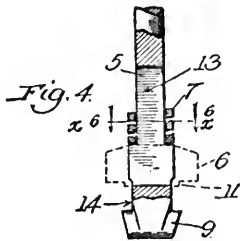
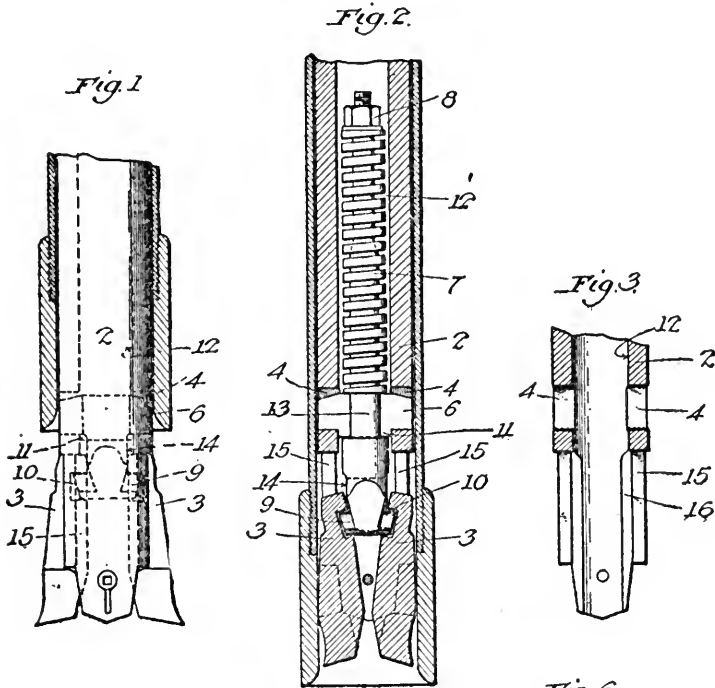
Defendant's Exhibit, Bole Patent.

R. E. BOLE.
UNDERBEAHER.

APPLICATION FILED FEB. 10, 1913.

1,080,135.

Patented Dec. 2, 1913.



Witnesses:
Lute A. Allen
Sully Bussor

Inventor:
Robert E. Bole
By *Lyon & Hackley*
Attys.

UNITED STATES PATENT OFFICE.

**ROBERT E. BOLE, OF LOS ANGELES, CALIFORNIA, ASSIGNOR OF ONE-HALF TO
EDWARD DOUBLE, OF LOS ANGELES, CALIFORNIA.
UNDERREAMER.**

1,080,135.

Specification of Letters Patent.

Patented Dec. 2, 1911

Application filed February 19, 1913. Serial No. 749,343.

To all whom it may concern:

Be it known that I, ROBERT E. BOLE, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Underreamer, of which the following is a specification.

This invention relates to an improvement in underreamers and has for its particular object, the provision of a simple and exceedingly durable mounting of the spring actuated rod or mandrel within and on the body of the underreamer.

The invention consists in the constructions and combinations of parts hereinafter described and more particularly pointed out in the claims, and will be more readily understood by the accompanying drawings in which:

Figure I is a side view of an underreamer embodying my invention, the underreamer being shown as projecting just below the shoe of a well casing and a portion of the upper end of the body of the reamer and well casing being omitted, the spring actuated rod or mandrel and bits being shown in dotted lines in expanded or underreaming position. Fig. 2 is a similar longitudinal sectional view showing the underreamer within the well casing and the bits in collapsed position. Fig. 3 is a partial longitudinal sectional view of the body of the underreamer. Fig. 4 is a sectional view on the line x^4-x^4 of Fig. 5 of the spring actuated rod or mandrel, and showing the key or gib in dotted lines. Fig. 5 is a side view of the spring actuated rod or mandrel, a portion of the coil spring being indicated thereon. Fig. 6 is a cross sectional view on the line x^6-x^6 of Fig. 4 showing the relation of the coil spring and the mandrel or spring actuated rod. Fig. 7 is a perspective view of the key or gib.

In the type of underreamers illustrated, for example, in the patent to Wilson, No. 827,595, dated July 31st, 1906, the spring actuated rod or mandrel upon which the underreamer cutters or bits are carried, is shown as held in the center bore of the body portion of the underreamer by means of dowel-pins. Such construction was found in actual practice to be weak and liable to break, leaving the cutters and spring actuated rod or mandrel in the well hole. To obviate this weakness I provide the body por-

tion of above the upper ends of the bits 3 with a slot 4 and correspondingly slot the mandrel or spring actuated rod 13 as at 5. Through these slots I project a gib or key 6, the outer ends of the key or gib resting upon the bottom walls of the slots in the body portion and seating thereon. The slot 5 in the spring actuated rod or mandrel 13 is made of sufficient length to permit the necessary or desired reciprocation of the rod or mandrel in the body of the reamer, and in order to secure the proper tension on the spring 7 surrounding such rod or mandrel, I seat the lower end of the spring upon this gib or key and the upper end of the spring is compressed to a suitable degree by means of a nut 8 threaded onto the upper end of the spring actuated rod or mandrel. By adjusting this nut the tension of the spring and consequently the upward throw of the mandrel or rod in the body of the reamer may be regulated at will. This gib or key 6 is loosely mounted in the slot 4 of the mandrel or body, that is to say, it is not attached to said body by any means which mechanically fix it as a part of such body. The tension of the coiled spring 7 holds this key or gib 6 in position so that the wing or downwardly projecting portion 11 seats in the bore 12 of the body and the gib is so proportioned as to permit the passage thereof laterally through the slot 4 after the wing or projection 11 has been raised out of the lower extension of the bore 12. The lower end of this spring actuated rod or mandrel may be provided with wings or prongs 9 forming an integral T-head on which the bits 3 are mounted and tilt or move pivotally. In place of forming this T-head integral with the spring actuated rod, I may provide a slot (not shown) through the rod and utilize a removable key or gib, the ends of which seat in the sockets or key-seats 10 of the bits or cutters. The sockets or key-seats 10 of the bits are preferably somewhat larger than the wings 9, to permit of the necessary tilting action. The gib or key 6 is preferably provided with a wing or downwardly projecting portion 11 of sufficient width to just fit within the bore 12 of the body 2 and thus prevent the accidental displacement of the key. The lower end of the spring actuated rod or mandrel 13 is enlarged as shown, so as to provide flat bearing surfaces 14 for the inner faces at the 1

1,080,135

upper ends of the bits. Below the slot 4 in the body portion I leave sufficient metal to provide strong seats for the key or gib 6 and below such seats the body portion is formed as a hollow slotted extension 15, the side walls of the slot at each side being provided with dovetails 16 adapted to coact with corresponding dovetails on the bits, as shown in said patent to Wilson.

I claim:

1. An underreamer comprising a body having a central bore, a rod or mandrel mounted in said bore, said body provided with a slot, said rod provided with a longitudinal slot, a key or gib mounted in said slot and provided with a downwardly projecting portion adapted to contact with the wall of the central bore below said slot and prevent lateral displacement of the key from either side of the slot, a spring mounted on said gib and operatively connected with said rod, said rod provided at its lower end with a bit engaging head or key.

2. An underreamer comprising a body having a central bore, a rod mounted to reciprocate in said bore, said body and rod provided with slots, a key mounted in said slots, said key having a projection or wing projecting downward from the slot of the body into the central bore and preventing lateral motion of the key, a spring mounted on said key and coiled about said rod, means at the upper end of said rod adjustably connecting said rod and spring, means at the lower end of said rod for engaging and supporting the bits or cutters, and cutters or bits.

3. An underreamer comprising a body having a central bore, a rod or mandrel mounted in said bore, said body and rod provided with registering slots, a key or gib mounted in said slots and having a projection or wing fitting within the bore of said mandrel below said slots and shouldering against the wall upon transverse movement in either direction, a spring mounted on said gib and operatively connected with said rod, said rod provided at its lower end with bit engaging and supporting means, said rod being enlarged at its lower end and provided with surfaces adapted to support the inner ends of the bits or cutters, and bits or cutters mounted on said rod.

4. An underreamer comprising a body having a central bore, a rod or mandrel

mounted in said bore, said body and rod provided with registering slots, a key or gib mounted in said slots, the slot in the rod being of sufficient longitudinal extension to permit the movement of said rod longitudinally of said body, a key or gib loosely mounted in said slots and having a projection or wing projecting downward into the central bore below the walls of the slot in the body and anchoring said key or gib against movement transversely of said body, a spring mounted on said gib and operatively connected with said rod, said rod provided at its lower end with bit engaging means, bits tiltingly carried thereby, and bearings for the inner faces of said bits formed on said rod and adapted to prevent lateral displacement of said bits.

5. An underreamer comprising a body having a central bore, a rod mounted in said bore, said body and rod provided with registering slots, a key or gib loosely mounted in said slots and having means at the bottom for anchoring in said body, a spring surrounding said rod and connected thereto at the top thereof, and operatively connected to said key at its lower end, said rod provided with bit engaging means.

6. An underreamer comprising a body having a central bore, a spring actuated rod mounted in said bore, said rod provided with bit carrying means, and a key loosely mounted in said body and held therein by the tension of said spring.

7. An underreamer comprising a hollow body, a spring actuated rod mounted therein and provided with bit carrying means, and a key loosely mounted in said body and operatively connecting said rod and body.

8. An underreamer comprising a hollow body, a reciprocating rod, a spring and a key operatively mounting said rod in said body, said key fitting loosely in said body and held therein by spring tension on the top, and means preventing the key sliding laterally in the body without overcoming the downward pressure of the spring on the key.

In testimony whereof I have hereunto set my hand at Los Angeles, California, this 12th day of February, 1913.

ROBERT E. BOLE.

In presence of—

FREDERICK S. LYON,
F. A. CRANDALL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."

Defendant's Exhibit Double Patent No. 1.

No. 734,833.

PATENTED JULY 28, 1903.

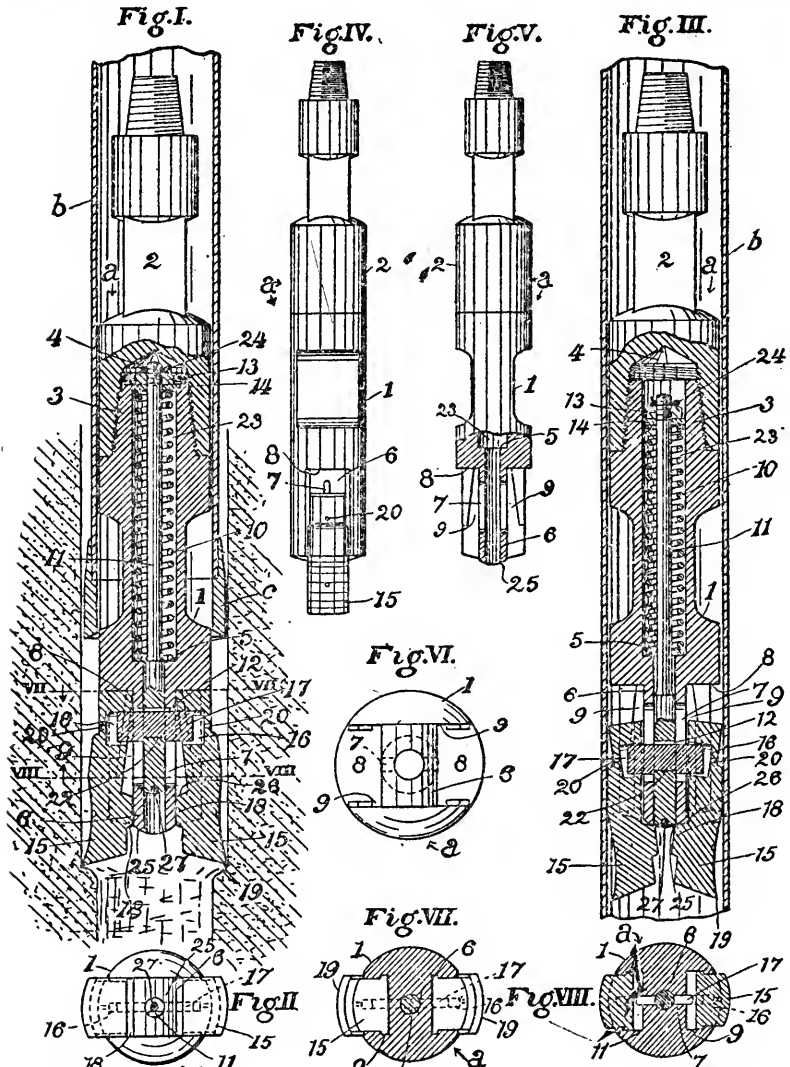
E. DOUBLE.

UNDERREAMER.

APPLICATION FILED OCT. 29, 1901.

NO MODEL.

3 SHEETS-SHEET 1.



Witnesses.
 C.F. Riehy.
 J. Townsend.

Inventor.
 Edward Double
 by Townsend Bros
 his atty

PATENTED JULY 28, 1903.

No. 734,833.

E. DOUBLE.
UNDERREAMER.

APPLICATION FILED OCT. 26, 1901.

2 SHEETS-SHEET 2.

NO MODEL.

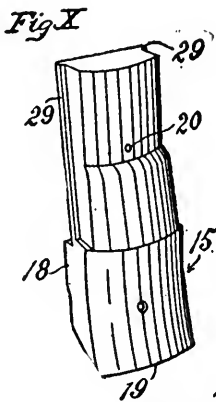
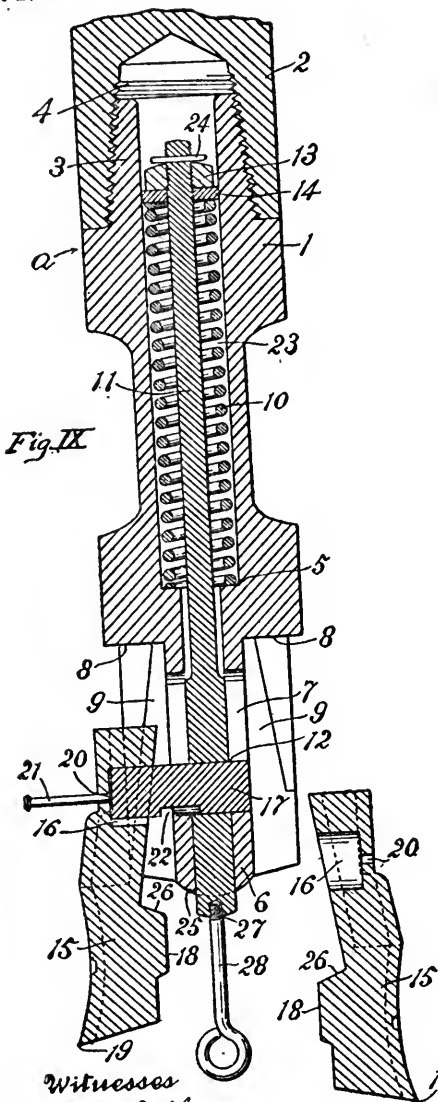


Fig. X

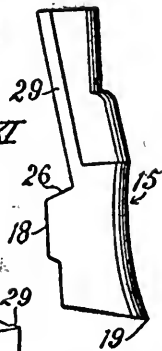


Fig. XI

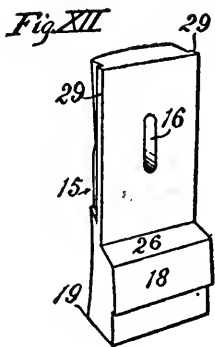


Fig. XII

Witnesses
C. C. Healy
J. Townsend.

Inventor
Edward Double
by Townsend Bros
his attys.

UNITED STATES PATENT OFFICE.

No. 734,833

Patented July 28, 1903

EDWARD DOUBLE, SANTA PAULA, CALIFORNIA.
UNDERREAMER.

SPECIFICATION forming part of Letters Patent No. 734,833, dated July 28, 1903.

Application filed October 26, 1901. Serial No. 80,144. (No model.)

To all whom it may concern:

Be it known that I, EDWARD DOUBLE, a citizen of the United States, residing at Santa Paula, in the county of Ventura and State of California, have invented a new and useful Underreamer, of which the following is a specification.

An object of this invention is to provide an underreamer which is easily constructed, effective in action, and will not be liable to any breakage or loss of parts while in operation.

My invention includes the novel underreamer and the combinations and parts hereinafter described and claimed and is capable of being carried out in various ways.

The accompanying drawings illustrate my invention.

Figure I is a view partly in vertical mid-section of an underreamer in operation below a well-casing, a portion of which is shown. Fig. II is a plan of the lower end of the underreamer with the slips in the position shown in Fig. I. Fig. III is a view of an underreamer with parts in position for passing through the casing. Portions are shown in vertical mid-section. A fragment of the casing is shown in axial section. Fig. IV is an elevation of the underreamer intact viewed from the right of Fig. III. Fig. V is an elevation of the underreamer-mandrel viewed from the right of Fig. IV, portions being broken away to expose the inner construction of the lower part of the mandrel. Fig. VI is an enlarged plan of the lower end of the underreamer-mandrel inverted. Figs. VII and VIII are sections on lines indicated by VII and VIII, respectively, in Fig. I, looking in the directions of the arrows, respectively. Fig. IX is an enlarged mid-sectional detail to illustrate the manner of applying or taking off the slips. Figs. X, XI, and XII illustrate one of the slips from different points of view.

a designates a hollow mandrel desirably constructed of a hollow body 1 and a joint member 2 screwed thereon, the hollow body 1 being furnished at its upper end with a screw-threaded pin 3 to screw into the socket 4 in the lower end of the joint member 2. The hollow mandrel is furnished with an internal shoulder 5, a downward extension 6, with oppositely-arranged parallel bearing-faces having a keyway 7 therein, shoulders 8 at the

sides of such extension, and upwardly and inwardly sloping tapering dovetail slipways 9 beneath said shoulders.

10 designates a spring on the shoulder 5 in the hollow mandrel.

11 designates a rod playing up and down in the mandrel and furnished with a key-seat 12 and supported by the spring 10. Preferably the rod 11 is furnished with a nut 13, screwed on its upper end, to be upheld by the spring 10.

14 designates a washer between the nut and the spring.

15 designates tilt-slips slidingly connected with the mandrel and playing in the slipways 9 and furnished with key-seats 16, respectively.

17 designates a key in the key-seats of the slips and rod and playing in the keyway 7 of said extension and upheld by the spring-supported rod 11 to hold the slips against the shoulders 8.

The sockets or key-seats 16 are somewhat larger than the key 17 to permit the slips 15 to partake of a tilting action, the key 17 thus forming a portion on the rod 11, on which the tilt slips or bits 15 are loosely swung or pivoted, adapting their lower ends to tilt or swing in toward the center of the stock or mandrel portion to pass through the well-casing or to tilt away from the center to assume the proper position for reaming. The tilt-slips are provided with shoulders, 18, adapted to slide upon a spreading portion provided in connection with the mandrel-body. Said slips are furnished with inward projections 18 to slide upon the downward extension 6 of the mandrel to spread apart the cutting edges 19 of the slips when the slips are drawn up. The slips 15 are slidingly mounted on opposite sides of the downwardly-extending portion of the mandrel, and the key-seats 16 thereof are on the inner faces of the slips, respectively, and are practically closed at their outer ends, thus to exclude any mud or other foreign materials when the underreamer is in operation.

20 designates small holes in the slips, respectively, to allow a punch 21 to be inserted for adjusting the key in the operation of applying or taking off the slips. The key is preferably a notched key, being provided in

734,833

its lower edge with a notch 22, so that when the key is in place in its seat 12 the walls of the notch will engage the rod 11, thus to guard against displacement of the key from the position shown in Figs. I and III. The spring 10 affords yielding means for constantly holding the rod 11 up in the notch 22 and to hold the slips 15 against the shoulders 8, the parts of the underreamer being constructed to allow the key to be inserted through the rod 11 into the key-seat of a slip only when the slips and rod are drawn down with the key-seat 12 of the rod flush with the bottom of the keyway 7 in the mandrel. For this purpose the tapering dovetail slipways 9 open laterally just above the plane of the lower end of the bottom of the keyway 7 in the extension to allow the key 17 to be inserted in the key-seats 12 and 20 only when said seats are flush with the lower end of the keyway 7 and the slip drawn out as far sideways as it can be drawn, as shown in Fig. IX.

To assemble the parts of the underreamer in the first instance, the hollow body 1 being unscrewed from the joint member 2, the spring 10 will be inserted into the chamber 23 of the mandrel to rest on the shoulder 5 therein, and the slip-carrying rod 11 will be inserted into place and the washer 14 and nut 13 adjusted, as shown in Fig. I. The nut is preferably held from unscrewing by means of a cotter-pin 24 passed through the rod 11 after the nut has been screwed home. The rod is then forced or pulled downward by any suitable means into the position shown in Fig. IX, thus bringing the bottom of the key-seat 12 flush with the bottom of the slot 7 in the extension 6 of the mandrel. Then one of the slips is applied in position, with its key seat 16 ready to receive the key 17, when the same is inserted through the key-seat 12 and the slot 7. Then the key is inserted and is passed through the key-seat of the rod sufficiently far to allow the other slip to be brought into position, so that the key may be pushed back into the key-seat of said other slip. Then a suitable instrument, such as the punch 21, will be inserted through the hole 20 and the key will be pushed back into the key seat of the slip last applied, whereupon the notch 22 will be brought into position to receive the lower wall of the key-seat 12. Then the rod 11 is released, thus allowing the yielding means 10 to draw the rod up into the mandrel, thus bringing the slips 15 up against the shoulders 8 and the inward projections 18 against the sides of the downward extension 6, thereby spreading apart the lower ends of the slips.

The face 25 of the lower end of the downward extension 6 of the mandrel is upwardly sloping at its edges and the upper faces 26 of the extensions are downwardly sloping, so that when the slips are drawn upward they are readily forced outward by the sliding contact of the sloping faces 25 and 26.

By the construction shown wherein the hollow mandrel is provided at its upper end with

a pin screwed into the lower end of the joint member 2 great strength of the hollow mandrel is insured.

In Fig. 1, *b* designates the well-casing and *c* the usual shoe at the bottom of such casing.

In order to conveniently remove and reapply the slips for the purpose of sharpening or for any other purpose, the lower end of the rod 11 is furnished with a screw-threaded socket 27, and means for drawing down the rod against the pressure of the spring 10 are temporarily screwed into the socket to enable the operator to bring the rod 11 into position to allow the slips to be removed and replaced without unscrewing the body of the mandrel from the joint member.

The eyebolt 28 (shown in Fig. IX) indicates a form of such means.

To remove the slips, the rod will be drawn down into the position shown in Fig. IX, thus bringing the key against the lower end of the keyway 7 in the extension 6 and allowing the rod to be drawn out of engagement with the notched edge of the key 17, whereupon a suitable instrument, such as the punch 21, will be inserted into the hole 20 and the key driven into the position substantially shown in Fig. IX, thus releasing one of the slips, whereupon the punch 21 will be inserted into the hole 20 in the other slip and the key will be driven out of the key-seat 16 in said other slip, thereby releasing the other slip.

To replace the slips, the operation just described will be reversed.

When the slips have been replaced, the rod will be released and the eyebolt unscrewed and the apparatus is ready for use.

29 designates the dovetail flanges of the slips to play in the ways 9.

To introduce the underreamer into the well-casing, the slips will be tilted and drawn down into the position shown in Fig. III, thus bringing the projections 18 below the extension 6, whereupon the edges 19 are brought toward each other sufficiently to allow the tool to pass down through the casing, and when the slips escape below the shoe *c* the spring 10 draws up the rod 11, which tilts the slips into cutting position, as indicated in Fig. I. When the tool is drawn upward, the slips coming into contact with the shoe will be tilted and pressed into the position shown in Fig. III and will readily pass out through the casing.

The rounded end 25 of the extension 6 when pressed against the abrupt projections 18 causes a quick tilting of the slips to throw their cutting edges outwardly, and the slips are thus brought into position with a comparatively slight longitudinal movement.

What I claim, and desire to secure by Letters Patent of the United States, is—

1. An underreamer comprising a hollow mandrel furnished with an internal shoulder, a downward extension having opposite parallel bearing-faces having a keyway therein, shoulders at the sides of such extension, and upwardly and inwardly sloping dovetail slip-

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ways beneath said shoulders; a spring on the shoulder in the hollow mandrel; a rod playing in the mandrel furnished with a key-seat and supported by the spring; dovetail tilt-slips playing in the slipways and furnished with key-seats respectively; a key in the key-seats of the slips and rod and playing in the keyway of said extension to hold the slips against the shoulders; said slips being furnished with inward projections to slide upon the downward extension of the mandrel to spread apart the cutting edges of the slips when the slips are drawn up.

2. An underreamer furnished with a mandrel having a downward extension provided with opposite parallel bearing-faces and a keyway in the extension; a spring-supported rod furnished with a key-seat and playing up and down in the mandrel; tilt-slips slidingly connected with the mandrel and furnished with inward projections to slide upon the opposite bearing-faces of the downward extension to spread the slips apart at the lower ends when the slips are drawn up; and a key carried by the rod and carrying the slips.

3. In an underreamer, the combination of a mandrel; slips slidingly mounted on opposite sides of a portion of said mandrel and furnished on their inner faces respectively with key-seats, said key-seats being somewhat larger than the key on the operating-rod; a yieldingly-supported rod playing lengthwise of the mandrel and furnished with a key-seat; and a notched key in the key-seats of the rod and slips, a portion of said rod taking into the notch of said key.

4. A mandrel furnished with shoulders and a slotted extension beyond said shoulders and with dovetail ways on opposite sides of said extension; dovetail tilt-slips for said ways furnished on their inner faces respectively with key-seats; a rod sliding in said mandrel and furnished with a key-seat; a notched key in the key-seats of the slips and rod; a portion of said rod taking into the notch of said key, and yielding means to draw the rod up; the parts being constructed to allow the key to be inserted through the rod into the key-seat of a slip only when the slip and rod are drawn down with the key-seats thereof flush with the bottom of the keyway in the mandrel.

5. In an underreamer, dovetail tilt-slips furnished with key-seats respectively on their inner faces; a rod furnished with a key-seat; a key for said key-seats; a mandrel in which the rod plays constructed with a slotted extension and tapering dovetail slipways which open laterally just above the lower end of the bottom of the slot in the extension, to allow the key to be inserted in the slot and key-seats only when the key-seats are flush with the lower end of the slot.

6. In an underreamer, a mandrel furnished with a hollow slotted extension, the lower end of which slopes upward at the edges; tilt-slips slidingly connected with the mandrel and furnished on their inner faces with projections, the upper faces of which slope downward to slide upon the extension of the mandrel; and means connecting the slips with the rod.

7. In an underreamer, the combination with a hollow mandrel, provided with a slotted extension, a spring-actuated slip-operating rod provided with a pivot-key, tilt-slips provided with key-seats adapted to be engaged by said pivot-key, said key-seats being somewhat larger than the key to allow the slips to tilt, said slips provided with inwardly projecting shoulders, and said slotted extension provided with surfaces adapted to tilt said slips and hold the same in expanded position.

8. In an underreamer the combination of a hollow mandrel with a hollow slotted extension, said extension having opposite parallel bearing-faces, a slip-carrying rod in said mandrel, slips connected to said rod, said slips having projections which bear against said extension, said slips being provided with key-seats, a key carried by said rod, each end of the key lying in a key-seat of a slip, and the key-seat in each slip being somewhat larger than the key to allow the slips to partake of a tilting action.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, at Santa Paula, in the county of Ventura and State of California, this 19th day of October, 1901.

EDWARD DOUBLE.

Witnesses:

WALTER WEEKLEY,
W. F. DINGER.

[Endorsed]: No. 2918. United States Circuit Court of Appeals for the Ninth Circuit. Union Tool Company vs. Wilson. Stipulation Re Defendant's Exhibit Bole Patent and Defendant's Double Patent No. 1, etc. Filed Apr. 27, 1917. F. D. Monckton, Clerk.

No. 2918. 2

United States
Circuit Court of Appeals,
FOR THE NINTH CIRCUIT.

Union Tool Company,

Appellant,

vs.

Elihu C. Wilson,

Appellee.

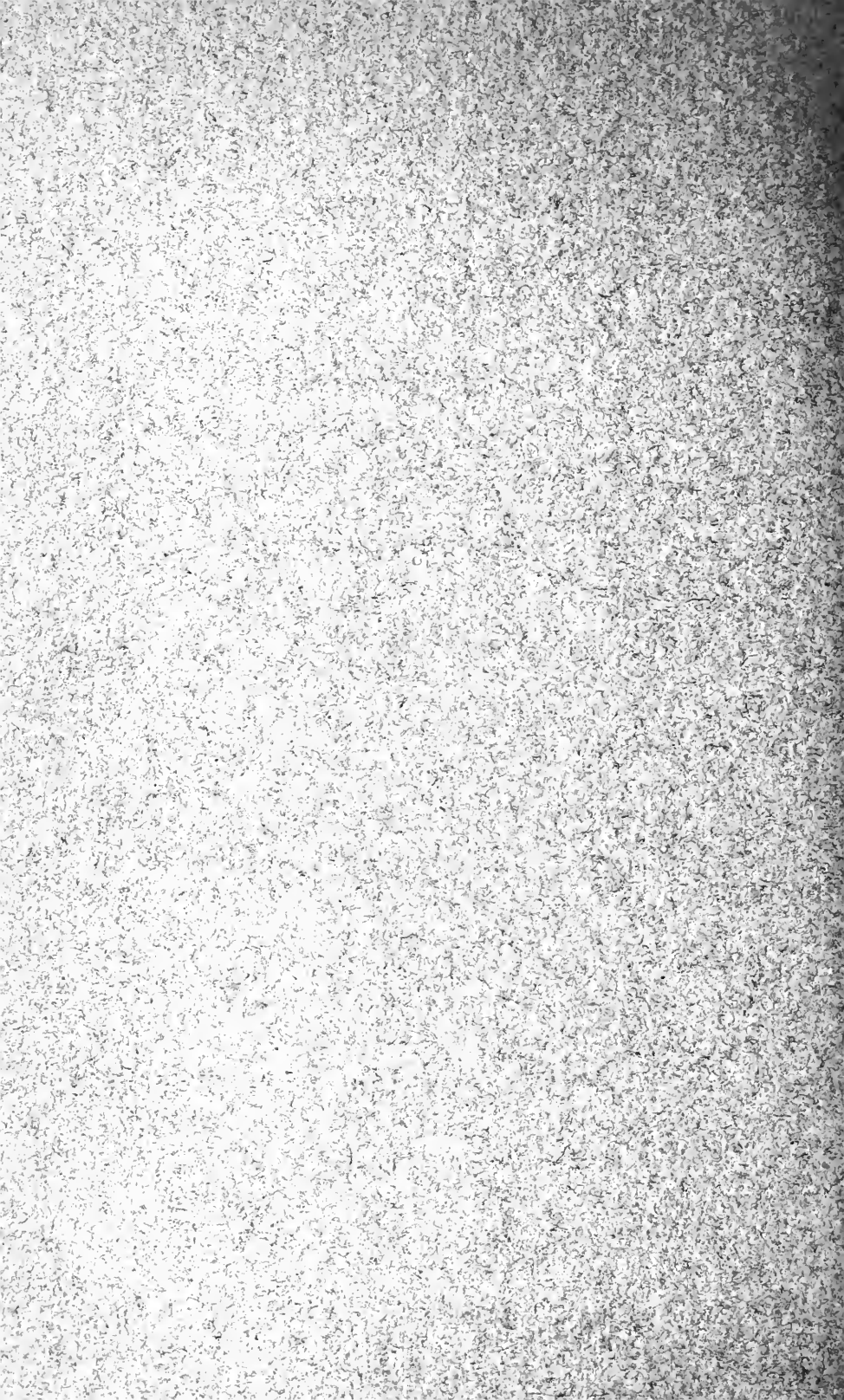
APPELLANT'S OPENING BRIEF.

FREDERICK S. LYON,
Solicitor for Defendant.

Filed

APR 23 1917

F. D. Monckton,
Clerk.



No. 2918.

United States

Circuit Court of Appeals,

FOR THE NINTH CIRCUIT.

Union Tool Company,

Appellant,

vs.

Elihu C. Wilson,

Appellee.

APPELLANT'S OPENING BRIEF.

This is an appeal from an interlocutory decree in equity granting an injunction prohibiting further infringement of certain letters patent.

The suit was heard in the District Court of the United States for the Southern District of California, the Hon. E. E. Cushman, U. S. district judge for the Western District of Washington, sitting by special designation.

For convenience the appellee, who was complainant below, will herein be referred to as complainant and appellant as defendant.

Defendant since 1905 has been manufacturing and selling the underreamers alleged to infringe the patent number 827,595, granted July 31, 1906, to complainant. It is admitted that since 1905 complainant has had full knowledge of this alleged infringement. The proofs show and complainant admits that during all these years complainant and defendant were competitors and both manufactured and sold their underreamers at Los Angeles, California. That they had no other competition; during all these years they have had the trade to themselves. Since 1908 a suit, No. 1540, in equity has been pending against the Wilson & Willard Manufacturing Company by the defendant herein (and its licensors and co-owners) for infringement of the Double patent for underreamers number 734,833, dated July 28, 1903, by reason of the manufacture and sale of "Wilson" underreamers in accordance with patent No. 827,595, here in suit.

During the month of February, 1913, depositions were being taken in such suit No. 1540 by this defendant against this complainant. While such depositions were being taken and after the proofs in such suit had been substantially completed on behalf of both parties, this complainant filed his bill of complaint against this defendant. Such suit was known as No. A-4. The original bill of complaint so filed in February, 1913, *charged infringement generally of the said Wilson patent.* [Record p. 6.] Defendant answered. By stipulation approved by the court the proofs were ordered taken in deposition form.

The issues, as thus framed by this bill of complaint in A-4 and the answer therein, were the validity of the

Wilson patent, No. 827,595, and the infringement of claims 1 to 20, inclusive, thereof. At this point it is desired to emphasize the fact that this original bill of complaint alleged infringement of each and all of the claims of the said Wilson patent and *each and all* of the claims were put in issue by these pleadings.

On March 24th, 1914, after the suit had been pending thirteen months, the complainant commenced taking proofs by deposition. Complainant was called as the first witness in his behalf. During the taking of his deposition complainant *elected* to stand upon the charge of infringement of claims 16 and 17 of the Wilson patent and conceded that claims 1 to 15 and 18 to 20 were not infringed by defendant's reamers.

At this time, March, 1914, and for many years prior thereto, complainant admittedly had full knowledge of all of the forms of Double reamers manufactured by the defendant (except a new type called "Type F," *which was not produced until long after this date*).

During the taking of complainant's said deposition complainant's counsel stated on the record:

"At this point I may state that complainant *elects* to stand upon claims 16 and 17 of Complainant's Exhibit Wilson Patent." [Record p. 121.]

As will be pointed out in full hereinafter, these claims 16 and 17 are for the cutters or bits *per se*, regardless of what kind of an underreamer body they are used in or with.

By this election complainant conceded and acknowledged that none of the defendant's reamers infringed in any respect the Wilson patent *except as to the cut-*

ters or bits per se as claimed in claims 16 and 17. Complainant conceded and admitted that no combination embracing any other feature or part of the Wilson invention had been appropriated by defendant. Complainant conceded that the bodies of defendant's reamers did not respond to the claims of the Wilson patent and that no one of defendant's reamers responded to any claimed combination of the Wilson patent. *Yet the injunction was ordered on the theory that defendant's reamers did not have cutters or bits as called for by claims 16 or 17 but infringed claims 9 and 19, non-infringement of which had been conceded and stipulated by complainant.*

This remarkable situation requires careful analysis and consideration. The question: *How did any issue of infringement of claims 9 or 19 come before the court?* must be decided before an inquiry into such alleged infringement. Did the lower court determine matters not in issue and not before it? *We submit it did.*

After making this election and abandoning all claim of any infringement of any of the other claims, and thereby not only in law but by direct positive affirmative action conceding that none thereof were infringed, complainant's counsel states:

"For the purpose of this suit in view of the election just made, complainant does not consider it necessary to produce the further parts of the two Double underreamers." [Record p. 121.]

This question of this election was concluded on the record by the following statements of counsel for the respective parties:

“Mr. Lyon: In the bill of complaint in this case the complainant has charged generally the infringement of Complainant’s Exhibit Wilson Patent, and at this time complainant evidently elects to abandon the charge of infringement of any of the claims except 16 and 17.

Mr. Blakeslee: That is correct, insofar as this suit is concerned, when we are dealing specifically with the claims.” [Record p. 122.]

It will be found that this election was never set aside, nor was the complainant ever relieved therefrom. It will also be found that defendant relied upon this election and proceeded with the manufacture and sale of its underreamers in reliance upon this positive affirmative action and formal stipulation on the part of complainant placing his own construction upon his alleged invention and patent and conceding and stipulating that none of defendant’s reamers infringed any of the claims of the Wilson patent except claims 16 and 17. This election was made after deliberation and after full advice of complainant’s solicitor. It was made after nine years’ knowledge of what defendant was making and selling.

Defendant was thoroughly satisfied that none of the bits or cutters manufactured by it infringed either claim 16 or 17.

The Wilson invention and patent having thus been construed by the complainant, and by his attorney, in this manner, defendant was certainly justified in relying upon such construction so placed upon such invention and patent by the complainant. Defendant had been manufacturing these reamers for over nine years.

Complainant and its counsel had been in litigation over the claim that complainant's reamer was an infringement of this defendant's exclusive rights. Such litigation had then been pending six years. Clearly this election by complainant was after very mature deliberation and should not lightly be disturbed. Defendant had a right to rely thereon.

The taking of proofs in behalf of complainant in deposition form proceeded until the latter part of the year 1914, when defendant made another type of under-reamer identified as "Type F." This "Type F" reamer was first interjected into this litigation on December 17, 1914. There was at that time pending in the District Court only said suit A-4. The same was pending upon the original bill of complaint, defendant's answer thereto, and the proceedings had during the taking of proofs, including in particular this election of complainant to stand on claims 16 and 17, and this concession by complainant (as a part of the trial of such suit) that defendant had not infringed any of the other claims of the Wilson patent by the manufacture of what are known in the record herein as the "Double Improved" and Type "D" and "E" reamers.

Thus we find that from 1905 to December, 1914, practically *ten* years, complainant had full knowledge of the defendant's reamers, was selling in open competition therewith, and had formally stipulated and conceded in this suit that except as to the claim of infringement of claims 16 and 17, defendant had not invaded in any manner complainant's patent. After nine years' open competition, after complainant and his counsel had for six years been both familiar with de-

defendant's reamers and been defending in court against the claim that complainant's reamers infringed defendant's exclusive rights under the Double patent, complainant formally states on the record in this case that complainant does not even claim or assert any infringement of complainant's patent except of claims 16 and 17.

This election and stipulation has the same force and effect as though made in open court during the trial of the case. Complainant never asked or moved to be relieved therefrom and it stands binding upon the complainant.

The interlocutory decree appealed from adjudges and decrees that defendant has *not* infringed claims 16 and 17. Therefore, the bill of complaint in this original suit A-4 should have been dismissed at complainant's cost. The Honorable District Judge so found in his original opinion, filed June 19, 1916. He says:

"No infringement of claims 16 and 17 is shown. Therefore, decree will be for defendant in A-4."
[Record p. 69.]

This finding clearly and positively freed defendant from all charge of infringement of the patent in suit embraced within the allegations of the bill of complaint in A-4. It followed that a decree in defendant's favor must be entered as to all reamers made or sold prior to December, 1914.

Inasmuch as such reamers were those known as "Double Improved," "Type C," "Type D" and "Type E," it followed that such decree would be *res adjudicata* that neither the "Double Improved," nor the

“Type C,” nor the “Type D,” nor the “Type E” reamers infringed the patent in suit. *The further manufacture and sale of any of these could not form another cause of action or the basis of another suit by complainant against defendant.*

Under the bill of complaint as filed the charge of infringement was of each and every one of the claims of the Wilson patent. It embraced *all* reamers manufactured to that date by defendant. A dismissal of such bill must have fully and finally absolved defendant from any and all charge of infringement by the manufacture of such reamers and amounted to an adjudication that none of the constructions or types of reamers manufactured or sold by defendant up to the time (at least) of filing such bill in A-4 was an infringement of the Wilson patent.

It followed, therefore, that there could be no injunction against defendant thereafter making or selling any reamer like those made or sold at the time said bill was filed.

It also followed that there could be no accounting of any profits made or derived by defendant from making or selling any such reamers. Such adjudication was also effective that complainant had suffered no damage.

The District Court, therefore, having found in appellant's favor and decreed that appellant had not infringed claims 16 and 17 of the patent in suit, and having found *that the original bill of complaint should be dismissed*, no injunction could issue against any underreamer thus adjudicated not to infringe.

In order, therefore, to sustain the injunction, the court must look elsewhere than to allegations of the

original bill of complaint for facts to support any injunction against the so-called "Double Improved," Type "D" or "E." (Type "C" is conceded not to infringe and is not covered by the decree or injunction.)

The original bill of complaint put in issue the whole Wilson patent and charged infringement thereof by the various reamers therefore made and sold by defendant, i. e., the "Double Improved," "Type C," "Type D" and "Type E." Issue was joined upon these assertions of the complainant. A dismissal of such charge freed absolutely each of these of *all* claim of infringing such patent.

If complainant could file and sustain another suit to assert infringement of claim 9 or 19 of the Wilson patent by defendant's making or selling a "Double Improved," or Type "C," "D" or "E" reamer, why could complainant not *now* also file and sustain another suit asserting infringement by any of these of claim 16 or 17 *notwithstanding the decree of non-infringement?* All the claims were part of the original cause of action. Voluntary dismissal or voluntary concession of non-infringement or waiver of all claim of infringement of all claims except claims 16 and 17 was a complete and final determination against complainant of any such claim and unequivocally renders the judgment based on such original bill and answer as much *res adjudicata* and not to be again hauled into court as though *such decree* had been entered after trial. There was no order of dismissal of the original bill of complaint as to all claims except 16 and 17 *without prejudice*. No right to reassert any of the claims was reserved. To hold otherwise is to permit

complainant to play fast and loose, not simply with defendant, but with the court. If complainant is not to be bound by such election and disclaimer then all the finality of judicial proceedings may better be set at nought and every rule abrogated, so that a party may have as many days in court and as many rehearings and retrials of any dispute as he may desire and may, according to his merest whim, demand the relitigation of any cause after its most solemn determination according to law.

This being the situation and condition with respect to said bill and to said original suit A-4, let us consider the acts of defendant, *subsequent to the filing of the bill in A-4*, to ascertain (1) what new cause of complaint, if any, complainant had, and (2) what procedure was had by complainant.

The taking of proofs proceeded on behalf of complainant during 1914. When complainant's *prima facie* proofs were almost completed, defendant brought out a new reamer. It is known herein as "Type F." It did not differ, according to defendant's belief (in any respect so far as the Wilson *patent* in suit is concerned), from defendant's other reamers. The essential difference between defendant's prior reamers and "Type F" resides in the provision of means for mounting the spring-actuated rod or T-bar in the body and the formation of the bottom spreading bearing partly removable so that the operating parts may be assembled from the bottom. No claim in the Wilson patent covered assembling from the bottom. The Honorable District Judge correctly found that complainant's patent did not cover the assembling from the bottom. He says:

“As respects the forked formation permitting the reamer to be assembled from the bottom rather than from the top, as in Double’s original invention, * * * these are not directly matters affecting in any way the mode of operation of the machine and do not show invention.” [Record p. 72.]

Of the prior “Jones Removable Bowl Reamer,” the court says:

“This removable bowl reamer anticipated the forking of the lower extension * * * insofar as permitting the rod integral with the head or tee thereon—which carries the cutters—to be inserted from the bottom is concerned.” [Record p. 75.]

The new cause of complaint or the supposed new cause of action was the “Type F” reamer.

The advent of this “Type F” reamer, however, being *after complainant had filed this suit* (in fact after issue had been joined and after complainant had practically completed his *prima facie* proofs), made it necessary for complainant to *elect* (1) whether complainant would file a supplemental bill of complaint to bring such reamer “Type F” in and have it considered in said original suit or (2) whether he would file a new original bill of complaint charging infringement by defendant by making and selling “Type F” reamers—an infringement (if any infringement it were) that had entirely taken place *after* the filing of the original bill and *after* the issues thereunder had been joined.

If complainant filed a supplemental bill and brought in such charge of infringement by the “Type F”

reamer, he took the chance that if he failed to maintain his original bill against the other reamers, his supplemental bill would fall therewith. For it is a rule that a supplemental bill cannot stand alone.

Street's Fed. Eq. Practice, Vol. 2, Sec. 1163;
Mellor v. Smither, 114 Fed. 116.

“Where plaintiff has no cause of action when his bill is filed, he cannot cure the defect by bringing in subsequent matters constituting good cause of action by a supplemental bill.”

Kryptock Co. v. Hausmann, 216 Fed. 267.

In Chicago Grain Door Co. v. Chicago, B. & Q. R. Co., 137 Fed. 101, District Judge Sanborn says:

“The rule that there can be no supplemental bill when the complainant has in fact no cause of action when suit commenced, and neither states a case, nor can do so, is too well settled to require extended citation. Mellor v. Smither, *supra*; New York etc. Co. v. Lincoln etc. Co. (C. C.), 74 Fed. 67; Bernard v. Toplitz, 160 Mass. 162, 35 N. E. 673, 39 Am. St. Rep. 465; Putney v. Whitmire (C. C.), 66 Fed. 387; Pinch v. Anthony, 10 Allen 477; Hughes v. Crane, 137 Ill. 519, 26 N. E. 517. It is equally well settled in patent cases that complainant must have a cause of action when the bill is filed. Judson Mfg. Co. v. Burge-Donaho Co. (C. C.), 47 Fed. 463; Slessinger v. Buckingham (C. C.), 17 Fed. 454. In Humane Bit Co. v. Barnet (C. C.), 117 Fed. 316, this rule was carried so far as to dismiss the bill where the proof showed infringement after the filing of the bill, but before service of subpoena, following Farmers' L. & T. Co. v. Lake St. El. R. Co., 177

U. S. 51, 20 Sup. Ct. 464, 44 L. Ed. 667, deciding that suit is begun when the bill is filed.

“The limited purpose of a supplemental bill is to repair or add to a good original case, shown by an original bill, good or bad, either to supply defects sometimes existing when suit brought, but usually afterwards occurring, or to support, fortify, or re-enforce.

“If complainant has in reality no case in the original suit, the supplemental bill must fail.”

At the time complainant decided to take action against defendant on account of the “Type F” reamers, the issues in the A-4 suit had been limited down to complainant’s claim of infringement of claims 16 and 17. Complainant had stipulated and conceded that none of the defendant’s reamers infringed any of the other claims. Such election, concession and stipulation was in effect a decree of dismissal of all claims of infringement *except as to claims 16 and 17*. Complainant was effectively estopped by his own solemn election and could not and cannot be heard to thereafter claim the contrary, i. e., infringement by either of the “Double Improved” or Types “C,” “D” or “E” reamers of any claim other than 16 or 17.

The reason for thus analyzing the facts and procedure is apparent when it is remembered that the lower court decreed that *none* of defendant’s reamers infringed either claim 16 or 17 and that *all* (*except “Type C”*) infringed claims 9 and 19.

The question must therefore immediately arise—*How did any claim of infringement of claims 9 or 19 come before the court?*

A second question also arises and must be answered: If infringement of claims 9 and 19 is in issue, does such issue of infringement embrace the reamers "Double Improved" and Types "D" and "E" (which formed the cause of action of the original bill), or is such issue as to claims 9 and 19 limited to a new cause of action arising from the "Type F" reamers?

The opinion of His Honor, Judge Cushman, fully supports defendant's position that the injunction *was not* ordered upon the issues of the original bill or of the suit A-4. Judge Cushman's opinion concludes:

"No infringement of claims 16 and 17 is shown. Therefore, decree will be for defendant in A-4."
[Tr. Record p. 69.]

The opinion *then proceeds* with a heading "B-62" and:

"The claims of the patent alleged to be infringed in cause B-62 are numbered 2, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 19."

Defendant asserts that it is a fair interpretation of Judge Cushman's opinion to state that all the issues of the original bill of complaint in suit A-4 were determined in favor of defendant and that Judge Cushman did not consider that in suit A-4 the complainant had ever been relieved of his election to stand solely upon claims 16 and 17 and his abandonment of all the other claims. On the contrary Judge Cushman's opinion is definite and certain that "The decree will be for defendant in A-4" as "No infringement of claims 16 and 17 is shown." Judge Cushman then says that in cause B-62 "the claims * * * alleged to be infringed are

numbered 2, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 19.” It is noted that claims 16 and 17 are omitted from this catalogue of the claims.

From this opinion it will be seen that Judge Cushman bases the decree of the District Court and the order for the injunction appealed *solely on cause B-62*.

If Judge Cushman be in error in holding that all of the types of reamers manufactured by the defendant are involved in cause B-62 or that such suit or cause B-62 is not limited to causes of action or infringement arising after the election in suit A-4 (the “Type F” reamers), then the order for the injunction cannot be sustained and must be reversed.

In passing it is only right to emphasize what Judge Cushman has emphasized.

In his memorandum opinion Judge Cushman concludes the consideration of suit “B-62” as follows:

“Therefore, it is held that the *machine* of the defendant infringes claims 9 and 19 of the patent in suit.” [Tr. p. 79.]

(The italics emphasize an important fact to be recognized in passing: Judge Cushman says “the *machine*” not “machines.” We shall show cause B-62, according to the bill of complaint therein, refers solely to one machine, the “Type F” reamer.)

The two questions:

(1) How did any claim of infringement of claims 9 and 19 come before the court? and

(2) If infringement of claims 9 and 19 is in issue, does such issue of infringement embrace the reamers “Double Improved” and Types “D” and “E” (which formed the cause of action of the

original bill in A-4), or is such issue as to claims 9 and 19 limited to a new cause of action arising *after* the commencement of suit A-4 and growing out of the Type "F" reamers?

must be answered by the issues as framed in suit A-4, including complainant's election therein to stand on claims 16 and 17, alone, and his concession that none of the reamers theretofore or then being manufactured or sold by defendant infringed any of the other claims, and the subsequent procedure.

Complainant did not file a supplemental bill in suit A-4.

But complainant, *without* dismissing his original suit A-4, filed a new and independent suit by an original bill. This suit was known as No. B-62. This bill was filed December 28, 1914. [Tr. pp. 28-35.]

Paragraph V of this bill of complaint [Record p. 31] charges infringement as follows:

"within the year last past and prior thereto * * * made, used, leased and sold, and is now making, using, leasing and selling underreamers embodying, containing and embracing the invention described, claimed and patented in and by said letters patent No. 827,595 and particularly set forth and defined by claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 19 thereof."

This allegation is not limited to any particular type or construction of reamer or to ANY *particular act* of infringement. It alleges infringement not only "*within the year last past*" but also "and prior thereto" and clearly embraces every cause of action attempted to be

alleged in the bill filed in suit A-4, which was still pending.

Reference to paragraph V of the bill of complaint in suit A-4 [Record p. 5] shows identically the same allegations except that the bill does not exclude any of the claims but covers all "the invention described, *claimed* and patented in and by said letters patent No. 827,595." The words "within the year last past and prior thereto" are identical in both bills.

If the original suit A-4 had been sustained defendant would have been liable for all damages and profits from acts of infringement within six years prior to the filing of the bill. (Six years prior to February 14, 1913.) While under the new original suit No. B-62 such liability would be barred by the statute of limitations, for the period from *February 14, 1907, to December 28, 1908. (The acts of alleged infringement continued during all of such period and form a material part of this controversy.)* This statute of limitations is section 4921, Compiled Statutes of 1901, 5 Fed. Stat. Ann. 577.

These two suits A-4 and B-62 being between the same parties and covering the same causes of action, defendant moved to dismiss the new suit B-62 for the reason that a party cannot twice sue for the same cause of action, asking the same relief.

To meet this motion complainant moved for leave to file an *amended bill* in suit B-62 and that such suit then be consolidated with the suit A-4. [Record p. 27.]

What was the purpose of such amendment? Defendant submits that its purpose *and its legal effect* was to limit the charge of the amended bill in new suit B-62 *to confine that suit to matters not within the scope*

of the bill in suit A-4. In other words to *new* infringements subsequent to the commencement of suit A-4. Such new claimed infringement was the Type "F" reamer.

Complainant was granted leave to file the amended bill in suit B-62 and upon such motion being granted defendant's motion to dismiss suit No. B-62 was denied. [Record pp. 48 and 49.]

Bearing in mind the fact that defendant did not make or sell a Type "F" reamer until late in 1914 and brought out no other new type or construction of reamer after the filing of the bill in suit A-4, attention is specifically directed to the *amendment* thus made in the bill in suit No. B-62. This amendment consisted in a substitution for the paragraph V of the original bill in B-62 [Record p. 31] of a new paragraph V as follows:

"And your orator further shows unto Your Honors *that there is pending* between the parties to this suit in equity in the same court, another suit in equity entitled Elihu C. Wilson, complainant, vs. Union Tool Company, defendant, No. A-4, in which infringement by the defendant herein is charged with respect to the letters patent sued under herein; that certain proofs have been taken on behalf of complainant in said other suit and *an election has been made to stand upon claims sixteen and seventeen of said patent in suit; that since the commencement* of taking proofs in said other suit, defendant herein, and in said other suit, *has been found to have departed from its original procedure in the manufacture and sale of underreamers, and to have further and more elaborately* infringed the letters patent sued under

therein and herein, thereby as your orator alleges upon information and belief, infringing, or further infringing, claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 19 of the said patent therein and herein sued under, all as hereinafter more particularly alleged.” [Record p. 42.]

This amendment thus pleads “an election * * * to stand upon claims sixteen and seventeen of said patent” in suit No. A-4. No attempt is made by complainant to set aside such election or to be relieved therefrom. The amended bill in suit B-62 pleads this election as in full force and binding on complainant. No action whatever was ever taken to relieve complainant therefrom. His Honor Judge Cushman treated the suit A-4 as limited to claims 16 and 17.

Having thus pleaded this election in suit A-4, this amended bill thus distinguishes the cause of action from the cause of action in suit A-4 and this for the purpose of meeting defendant’s said motion to dismiss:

“That *since* the commencement of taking proofs in said other suit” (No. A-4) “defendant herein and in said other suit, *has been found to have departed from its original procedure* in the manufacture and sale of underreamers, *and to have more elaborately infringed* the letters patent sued under therein and herein.”

This “*departure from its original procedure*” was the making and sale of Type “F” reamers. This was the new act of defendant “since the commencement of taking proofs in said other suit” and this was the new cause of action which caused His Honor Judge Bledsoe to deny defendant’s motion to dismiss suit B-62.

Most certainly a party cannot divide or split upon his cause of action and maintain two suits, one for one part—another for another part of such cause of action.

Complainant having sued defendant in suit A-4 *on all the Wilson patent*, cannot thereafter say I elect to prosecute this suit A-4 for so much of my cause of action as is covered by claims 16 and 17 and I will afterwards bring an additional suit on the other claims of such patent. Nor is such an intention fairly deducible either from the election made in suit A-4 or the amended bill in suit B-62. In suit A-4 complainant put the whole Wilson patent in issue. He elected to disclaim any infringement except as to claims 16 and 17. He then afterwards finds defendant with another new construction. This he thinks infringes other claims. He pleads this as a new departure since the taking of proofs in A-4.

But we are not confined to these pleadings for full light on this situation. The record of proceedings is replete with the construction placed by complainant on both the election in A-4 and the new suit B-62. The record not only clarifies complainant's action in thus amending his bill in suit B-62 but gives us his formal statement *as a matter of court record* as to his construction of suit B-62.

On December 21, 1914, prior to the filing of suit B-62, complainant's counsel stated formally as a part of the record:

“Mr. Blakeslee: In response to inquiry of counsel for defendant, as to what further portions of the Wilson patent in suit complainant wishes to rely upon in departure from the election of

record, *as to the charge of an infringement with respect to Complainant's Exhibit, Reamer Type 'F,'* counsel for defendant is informed that the following further claims, together with the pertinent portions of the specification and drawings of the Wilson patent in suit, *are believed to be involved by said last-mentioned exhibit, to-wit: Claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 19.*" [Record p. 448.]

On December 31, 1914, complainant's counsel stated formally on the record:

"And, in order that the proof of infringement might be complete, the subsequent bill charging infringement by this type of reamer has been filed, and, in order that, if the court so direct, all of the issues of infringement charged may be tried out in this suit, the motion is made to consolidate the subsequent suit with the present one." [Record p. 517.]

The theory of complainant's motion to consolidate suits A-4 and B-62 is set forth in the statement of complainant's counsel on the record on December 31, 1914, as follows:

"Mr. Blakeslee: There were a number of procedures open to complainant subsequent to the offering in evidence of Complainant's Exhibit Reamer Type 'F.' Those proceedings, including the filing of a further bill or a new original bill, were discussed on the record between counsel for both parties at the last session. An original bill has been filed alleging infringement of certain claims of the patent in suit, other than the claims involved in the *election charging* infringement in this case. (A-4.) It is the present purpose of

complainant to move this Honorable Court for an order consolidating the suit thus filed, involving this patent subsequent to the present suit, with the present suit, *upon a showing that the issue of such subsequent suit involves the exhibit Complainant's Exhibit Reamer Type 'F' in this present or first-brought suit, and in order that, as to such exhibit, the issues of infringement under the patent in suit may be broadened out in the respects of such further bill.* We have not attempted to dodge the election made in this case." [Record p. 513.]

By reference to the record pages 517 and 518 it will be found that the taking of proofs in suit A-4 was adjourned to permit the determination of complainant of his procedure "with reference to this question of alleged infringement by reamers like Complainant's Exhibit Type 'F'."

We thus have complainant's distinct and definite statements that complainant does not seek to abrogate the election and concession that defendant's reamers other than Type "F" do not infringe and are not claimed to infringe the Wilson patent *except as to claimed infringement of claims 16 and 17* and that the new suit was filed solely with regard to Type "F." The amended bill, paragraph V, pleading the election in suit A-4 as binding and unimpeached, shows conclusively that *only* Type "F" reamers were involved in suit B-62.

If this be correct the injunctive order is in error as it distinctly and specifically enjoins *all* types.

Clearly the decree that the "Double Improved" or Types "D" or "E" reamers infringe and be enjoined

cannot be sustained under the bill of complaint and election in suit A-4. It is equally true that such order or decree cannot be sustained under the amended bill in suit B-62.

On February 16, 1915, complainant's counsel makes the following statement a part of the record:

“Such proceedings on such motion to consolidate *being taken in view of the election by the complainant to stand upon claims 16 and 17 of the claims of the Wilson patent in suit, the complainant again offers in evidence the underreamer marked ‘Complainant’s Exhibit Reamer Type F’ as ‘Complainant’s Exhibit Reamer Type F’ under pleadings in equity suit No. B-62 heretofore consolidated by order of the court with the above entitled suit.*” [Record p. 521.]

This is the last reference in the record concerning this election and shows conclusively that complainant was never relieved in any manner therefrom, but on the contrary the proofs in the case were completed on complainant's statement that he stood on such election.

The facts, therefore, squarely present the proposition:

Can a patent owner sue an infringer on all claims of his patent, then give notice that he concedes that all except one or two claims are not infringed, and thereafter in another suit haul the alleged infringer back into court to again litigate the allegations of infringement as to such other claims, which he has so abandoned as not infringed?

Can such patent owner split up his cause of action

in equity and after abandoning part of it in one suit, reassert such abandoned portion in a subsequent suit?

It is submitted that there is no basis for that portion of the interlocutory decree which orders and decrees that defendant has infringed upon the patent in suit and particularly upon claims 9 and 19 thereof "by the manufacture and sale or lease or sale and lease of the socalled 'Double Improved' underreamers * * * like 'Complainant's Exhibit Improved Double Reamers and Cutters' and Complainant's Exhibit Defendant's Reamer Type 'D' and Complainant's Exhibit Reamer Type 'E,' " or which decrees that defendant be enjoined and restrained from manufacturing "any underreamer or underreamers like or embodying the construction or interrelation or formation of parts of either 'Complainant's Exhibit Improved Double Reamer and Cutters' or Complainant's Exhibit Defendant's Reamer Type 'D' or Complainant's Exhibit Reamer Type 'E.' "

The decree appealed from should be reversed and the case remanded to the district court with instructions to modify the decree so that it shows that it applies solely to the Type "F" reamers. That this was the only type of reamer before the court on a charge of infringing either claim 9 or 19.

The question of the Type "F" reamers infringing will be hereinafter discussed and this statement is not an admission that even the Type "F" reamers infringe, but so far we have been considering in this brief solely the question whether any other type or construction of reamer except the Type "F" is embraced within the issues of the amended bill in B-62 and whether the lower court erred in embracing within its decree matter

not in issue under the pleadings and not before the court for determination.

In passing the court's attention is directed to the record which contains a full exposition of the manner in which the Type "F" reamer was interjected in this litigation,—in suit A-4 and then by the filing of the original bill in B-62.

The Type "F" reamer was first interjected into this litigation on Dec. 17, 1914 [Tr. of Record deposition of E. C. Wilson, p. 494-499, Qs. 442-448].

It will be noted that no objection at this time was made to the offering in evidence of the Type "F" reamer on the ground that it was not within the issues of the election made by complainant in suit A-4. It was assumed by, and defendant had a right to assume, that the Type "F" reamer was then offered in evidence under a charge of infringement of claims 16 and 17 of the Wilson patent and under the concession that such reamer did not infringe any of the other claims, the issues of the suit A-4 being limited to these two claims by the election and abandonment of complainant.

At the session of December 19, 1914 [Record p. 437] it was stipulated and admitted that the Type "F" reamer exhibit was made and sold by defendant since the commencement of the suit A-4 and during the year 1914, and complainant, through its counsel, then makes the following most significant statement upon the record:

"Mr. Blakeslee: In view of the stipulation and admission just made by the defendant, with respect to Complainant's Exhibit, Reamer Type 'F,' which we are prepared to show to the court was not be-

fore complainant at the time the bill herein was filed, nor at the time the *prima facie* proofs in this case, in the early part of this year were taken, nor at the time that the election was made by complainant to stand upon certain portions of the patent in suit, as indicated more particularly by claims sixteen and seventeen of the patent in suit, and the supplementary portions of the disclosure of the patent in suit, complainant finds it necessary, in order to make out a full case of infringement against the defendant, to take proper steps to depart from the election heretofore (366) made as above recited, *that election we are prepared to stand by with respect to the alleged infringing structures, other than Complainant's Exhibit Defendant's Reamer Type 'F'.*

“We therefore make inquiry of defendant, whether it will voluntarily, and on stipulation, permit complainant to withdraw and depart from said election *in treatment of this Type 'F' reamer construction*, or whether defendant will put us upon procedure to obtain permission *to so* depart from such election, or to file a supplemental bill herein, or take other procedure in the premises to the end that in this same case in equity, all of the alleged infringing structures before us, may be before the court, and passed upon by the court at the final hearing of this case.” [Record pp. 437, 438.]

Relying upon this statement of position by the complainant, defendant's counsel replied thereto as follows:

“Mr. Lyon: That the defendant may fully understand complainant's position, and before making any answer to the question of complainant's counsel, it will be necessary for complainant to state upon the record what departure he wishes

to make *with respect to any alleged infringement by Complainant's Exhibit Reamer Type 'F'* from the election to claim infringement only of claims sixteen and seventeen of 'Complainant's Exhibit, Wilson Patent' sued on herein. *In other words, what claims of said patent in suit does complainant contend are infringed by Complainant's Exhibit, Reamer Type 'F'.*" [Record pp. 438-439.]

Complainant's counsel then answers as follows:

"Mr. Blakeslee: Complainant, in order to so specifically depart from the election herein made, submits that at the next session of taking proofs herein, he will, through his counsel, submit, or before such time submit to counsel for defendant, a specification of such further claims of the remaining portions of the patent *which it is desired to allege are infringed by such Complainant's Exhibit Reamer Type 'F.'*" [Record p. 439.]

Defendant stated on the record at that time that it would answer complainant's inquiry when complainant fully developed his position, and stated "At the present time, I insist that complainant is bound by his election in this suit."

At the session of December 21, 1914, which was the session following that to which reference has just been made, at the opening of such session complainant's counsel stated on the record:

"Mr. Blakeslee: In response to inquiry of counsel for defendant, as to what further portions of the Wilson patent in suit complainant wishes to rely upon in departure from the election of record, *as to the charge of an infringement with respect to Complainant's Exhibit Reamer Type 'F,'* coun-

sel for defendant is informed that the following further claims, together with the pertinent portions of the specification and drawings of the Wilson patent in suit, *are believed to be involved by said last-mentioned exhibit*, to-wit: Claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 19." [Record p. 448.]

(In passing, we call the court's particular attention to the fact that complainant here states that he believes the Type "F" reamer infringes the very claims which are specified by numbers in both the original and amended bill in suit B-62. It is submitted this is significant as showing the intendment of complainant by such suit. Peculiarly and particularly is this true in view of the statements heretofore quoted of complainant that "*the subsequent bill charging infringement by this type of reamer has been filed*," and that the purpose of the subsequent suit B-62 was to bring the Type "F" reamer before the court.)

After the statement just quoted by complainant's counsel, the record, page 448, shows that complainant then asked counsel for defendant "if he is prepared to state his attitude with respect to such departure from said election, *with respect to this last named exhibit*."

Defendant's counsel then replies:

"Inasmuch as the construction of the reamer exemplified in Complainant's Exhibit Reamer, Type 'F,' has been produced by the defendant since the commencement of the taking of proofs in this case and long since the answer of defendant in this suit, and inasmuch as this suit has heretofore progressed upon an alleged charge of infringement of claims sixteen and seventeen only,

complainant does not object to the determination of a charge of any alleged infringement, or charge of infringement, by the manufacture or sale of reamers like Complainant's Exhibit Reamer, Type 'F,' in this suit, and will raise no question as to the bringing in of such reamer in this suit, to try the alleged question of infringement thereof, such claim of infringement being limited in accordance with the limitations of the election heretofore made by complainant in this case, *but insists that for all purposes of this case, complainant is bound by such election*, and cannot interject into this case any other matter. *The bill in this case was an allegation of general infringement and complainant, upon the record, thereafter elected and stated that claims sixteen and seventeen were the only claims relied upon, thereby limiting this suit to that issue, and in effect, dismissed the suit as to any and all other claims of said Wilson patent.* Defendant will insist that complainant is bound by such election and cannot at this point set aside or abrogate such election, and defendant will leave complainant to such procedure as complainant is advised to take in the matter, defendant objecting to any attempt to extend this litigation beyond the scope of the election and stipulation so made on the record by complainant." [Record pp. 448-449.]

We call the court's particular attention to the record of proceedings upon this matter forming the session of December 21, 1914, and included in pages 448-457 of the transcript.

The next session, after this session of December 21, 1914, was the session of December 31, 1914,—three days after the filing of suit B-62.

We call the court's attention to the proceedings and statements of counsel on that date and to the particular statement made by complainant's counsel that the motion for consolidation is made "upon a showing that *the issue of such subsequent suit involves the exhibit Complainant's Exhibit Reamer Type "F"* and that complainant has "*not attempted to dodge the election made in this case*" [Record p. 513] and also the statement of complainant's counsel at the top of page 515 of the record that "It may be that upon the ruling of the court upon said motion all charge of infringement in and by said reamer Type "F" may be decided to be pressed in the further suit in which said motion is brought."

Attention is also called to the statement of complainant's counsel on page 517 that *the subsequent bill charging infringement by this Type "F" reamer has been filed*, and to the agreement on page 518 that *all proceedings be suspended until the question of procedure regarding alleged infringement by reamers like Type "F" has been determined*.

No subsequent or additional suit was necessary *or proper* to bring before the court any of the forms of reamers which had been manufactured by defendant prior to the filing of the bill in A-4. Such suit embraced within its allegations, and the proofs taken thereunder had to do with, the Double Improved reamers, embracing all thereof, except the 1914 production, —*Type "F."*

That complainant sought to have defendant waive the necessity of a supplemental bill to bring in the subsequent alleged infringement, Type "F," *and as to*

that type stipulate that the election should not be binding on complainant is clear. It is significant that during none of these remarks by counsel for complainant is any mention made of being relieved generally of such election, but that, on the contrary, each time complainant distinctly reiterates that complainant is bound thereby and is not attempting "to dodge" such election. In a nut-shell, the entire record shows that complainant brought the new suit B-62 so as not to be bound by this election *so far as Type "F" reamers are concerned, and never had any idea or intention of being relieved from such election as to the Double Improved types.* It was this record and upon these representations that defendant's motion to dismiss suit B-62 was denied by Judge Bledsoe, and the order of consolidation granted. It is apparent that at that time complainant did not consider any other reamer infringed claims 9 or 19.

The motion to consolidate appears on page 36 of the printed record. Particular attention is called to the statement that such motion is based "*upon the proceedings taken in said equity suit A-4.*" Such proceedings include complainant's statements *that the purpose of suit B-62 was to broaden out the issues of infringement as to the Type "F" reamer* [Record, p. 513] and that "*the subsequent bill charging infringement by this type of reamer has been filed.*" [Record II. 23-25 p. 517.] This statement is made after suit B-62 was commenced and characterizes such suit.

The supplemental motion [Record p. 37] asking leave to file an amended bill in B-62 and then for consolidation of suits A-4 and B-62, together with the statements on the record in A-4, were before Judge

Bledsoe when this motion was determined by him and from all these it is easy to gather the real intendment of the order of consolidation.

The order of consolidation does not pretend to relieve complainant of his election in A-4 nor does it pretend to extend in any manner the issues to be tried. It could not. The amended bill pleads and stands on the election. The order simply consolidates the two cases for convenience in trial. *The issues remained the same as set forth on the record of the respective suits.* There is nothing on the record to show any intention of the court to enlarge such issues.

The district court evidently considered its order of February 15, 1915 [Record p. 49], premature, for on April 19, 1915, *after defendant had answered the amended bill in B-62*, a new order of consolidation was entered. [Record pp. 59-62.] A study of this order shows that it was “without prejudice, however, to the right of the defendant to move * * * to set aside said order of consolidation.”

In this second order no intention appears to enlarge the issues of said cases A-4 and B-62 and the election of complainant is not referred to. The order does not abrogate the pleaded election. On the contrary the order is merely a consolidation of the two then independent cases on the issues *as they stood on the record then before the court.* That was complainant's motion. [See motions pp. 48 and 49.]

A mere order consolidating two cases for the purpose of convenience in trial does not change or enlarge the issues as made up by the parties. It is an order that the two litigations be heard together. But *ipso facto*

does not alter or enlarge the inquiry or enlarge the matters in dispute to be determined by the court.

To hold otherwise is to abrogate the Statute of Limitations. In suit A-4, if successful, complainant would recover for six years prior to filing the bill. If mere consolidation enlarges the whole issues then, under complainant's theory the charge of infringement filed December 28, 1914, is extended in defiance of this statute, so that complainant's recovery goes back not simply six years prior to December 28, 1914, but six years prior to February 14, 1913. This is substantial in this case as the "Double Improved" Type "D" and "E" reamers have been made and sold by defendant since 1905, according to the complainant's testimony.

On June 27, 1916, a rehearing was granted by Judge Cushman. [Record p. 80.] The opinion on rehearing appears at page 81.

After the trial or final hearing of this case Judge Cushman filed the opinion appearing on pages 65-79 of the record. He ordered the bill in A-4 dismissed. He ordered the injunctive relief prayed in B-62 granted as to claims 9 and 19. At the hearing complainant's counsel said:

"It developed that the defendant had more elaborately infringed the patent as we charged, *by making another underreamer*" [counsel refers to Type "F"], "*which infringed, as we charged by our new bill, claims 2, 4, 8, 9, 10, 11, 12, 13, 14 and 19, in addition to claims 16 and 17.*" [From the stenographic report of argument filed by order of court.]

Up to the time a rehearing was granted, by reason of dispute arising as to whether a separate decree should be filed in each case, A-4-B-62, in accordance with Judge Cushman's decision, no claim was made by complainant that the bill in B-62 involved anything more than the Type "F" reamer.

After complainant had closed his opening case, July 23, 1915, the taking of defendant's proofs was commenced. Complainant's counsel made the following statement on the record:

"Mr. Blakeslee: Complainant gives notice to the defendant at this time that *alternative to any disposition* which may be made of equity suit No. B-62, consolidated by the order of the court with equity suit No. A-4 consolidated, in which these proceedings are being conducted, namely, *any disposition* which (455) may be made of said equity *suit No. B-62* at the final hearing of this case with respect to such consolidation of said two cases, complainant at such final hearing will rely upon claims Nos. 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 19, of the Wilson patent in suit herein. This notice of alternative attitude or position is given at this time in order that defendant may be apprised in the premises before commencing the taking of its proofs." [Record Vol. II p. 541.]

This statement was construed at the time by defendant in connection with paragraph V of the amended bill in B-62 *and in connection with and in the light of* complainant's statement on the record December 31, 1914 (page 513):

"It is the present purpose of complainant to move this Honorable Court for an order consoli-

dating the suit thus filed, involving this patent subsequent to the present suit, with the present suit, upon a showing that the issue of such subsequent suit involves the exhibit Complainant's Exhibit Reamer Type 'F' in this present or first-brought suit, and in order that, as to such exhibit, the issues of infringement under the patent in suit may be broadened out in the respects of such further bill. We have not attempted to dodge the election made in this case."

Also, in connection with complainant's statement:

"Mr. Blakeslee: We do not understand that there has been any waiver in any respect by either party in regard to this matter of Complainant's Exhibit Reamer Type 'F,' nor that there has been any election by complainant other than to fully prosecute any possible charge of infringement in respect to this type of reamer. And, in order that the proof of infringement might be complete, and subsequent bill charging infringement by this type of reamer has been filed."
[Record p. 517.]

And the statement contained in the last paragraph on page 521.

Judge Cushman's opinion on the rehearing seems to be very inconsistent. In the opening paragraph [Record p. 81] he states that prior to the order of consolidation there was much said by complainant to support the contention now made by defendant, but that it must be borne in mind that such statements were made with a view to securing a stipulation to waive complainant's election. That such stipulation was not made.

Upon what action of the court does Judge Cushman rely as relieving complainant from such election?

Complainant had no right to dismiss a part of his bill in A-4 and bring a new and independent suit on such part so dismissed.

Camden & Amboy Co. v. Stewart, 4 C. E. Green
N. J. 69.

The orders of consolidation do not order that complainant be relieved from this election. This election is pleaded as in force and effect by paragraph V of the amended bill in B-62.

It follows from the fact that there was neither a court order relieving complainant from this election, nor a stipulation to that effect, that such an election can *not* be held as a dismissal *without prejudice* of an indivisible part of the cause of action asserted in the bill in A-4, or that complainant, in defiance of and against the very terms of paragraph V of the amended bill in B-62 (which is the pleading upon which he must stand), may assert that the "Double Improved" types of reamers stood charged as infringing either claim 9 or 19, or that such an issue was presented in this litigation for determination.

Judge Cushman, it is submitted, has entirely misconstrued the issue as presented by the amended bill in B-62. He says:

"Nothing short of a clear, unequivocal election to withdraw or discontinue the suit as to alleged infringements set out in B-62 would suffice to narrow the issues thereby tendered." [Last paragraph Record p. 82.]

This would indicate that, as shown by Judge Cushman's original opinion, he did not consider the suit A-4 as in any manner raising the issue of infringement as to claim 9 or 19 as to the "Double Improved" types of reamers in view of the election made by complainant in that suit, or that complainant in that suit A-4 had been relieved in any manner from such election. On the contrary both the original opinion and this rehearing opinion seem to base the holding that any issue of infringement of claim 9 or 19 by such "Double Improved" types was based wholly on the suit B-62. Yet this election is part of the pleaded cause of action in B-62.

Judge Cushman says that complainant had a right to withdraw such election. But complainant never withdrew such election. He pleaded such election as in effect. He stated on the record he did not intend to "dodge" such election. He secured the denial of defendant's motion to dismiss suit B-62 on the ground such election was in force and effect and that he stood thereon, and that the suit B-62 was directed to a new and different infringing act,—the Type "F" reamer.

Has the court any right to utterly disregard the averments of paragraph V of the amended bill in B-62, upon which complainant has stood on the motion to dismiss and upon which he has secured the order of consolidation, and reframe for complainant the issues? And this without even a motion or intimation to that effect by complainant and in direct conflict with the statements on the record as to the basis and purpose of the new and independent suit B-62?

Defendant went to trial on the issues raised by these pleadings. Such pleadings were never amended to relieve the complainant from the election thus formally made and most formally pleaded. Is it not inequitable to confront defendant with an issue not raised by the pleadings,—one inconsistent therewith? And one which extends for eighteen months its liability in derogation of the Statute of Limitations?

Having pleaded such election as part of the issue tended, can complainant relieve himself therefrom *by merely saying* I reassert that the “Improved Reamers” infringe claims 9 and 19? This is the most complainant even claims to have done to avoid such election. *And the record does not show he ever even did that.*

The first point that is submitted for this court’s determination, therefore, is:

The interlocutory decree appealed from is in error in decreeing that there was any issue before the court to be determined respecting any infringement of either claim 9 or 19 except as to the Type “F” reamer, and that the decree is erroneous and broader than the issues in determining that the “Double Improved” Types “D” or “E” reamers infringed either claim 9 or 19, or in enjoining either of these as infringements of either claim 9 or 19 for the reason that such issue was not before the court for determination. Upon the issues as made by the pleadings, and by the election pleaded, the decree should have been that no infringement of claims 16 and 17 is found, and that the issue of the pleadings in suit B-62 was limited to the Type “F” reamer.

A party has not the absolute right to dismiss without prejudice a suit which he has commenced in equity. As this court held in

Ebner v. Zimmerly, 118 Fed. 818:

“The propriety of permitting a plaintiff to dismiss his bill without prejudice, is a matter within the discretion of the court, which discretion is to be exercised with reference to the rights of both parties.”

See also:

Stevens v. The Railroads, 4 Fed. 97;

Folger v. Shaw Co., Fed. Cas. 4, 899.

The election in A-4 was tantamount to confessing judgment that the “Double Improved” reamers did not infringe any claims of the Wilson patent except claims 16 and 17, and upon such election defendant was entitled in suit A-4 to a decree to that effect.

This is recognized by paragraph V of the amended bill in B-62.

There are two well known methods or systems of drilling artesian and oil wells; there is a third system (Canadian Pole system), very little known in this country, to which reference, however, will be made, before we close.

The first two systems are those known as the cable tool or “standard” system and the rotary system. We have, in this case, nothing whatever to do with the rotary system.

The cable tool system is the system which has been referred to in the testimony both as the standard and as the cable tool system. It consists essentially of a

high derrick with windlasses, called "bull" wheels and "calf" wheels, for winding up and releasing the cables or ropes to which the tools and pipe or casing are attached. The hole in the ground is made by the drop of the string of tools.

With the standard or cable tool system, in drilling, a certain amount of water is kept in the bottom of the hole, so as to fill the bottom of the hole and churn up a mud. This mud, or detritus formed by the drillings and the water, is taken out of the hole in the earth by a "sand pumper or bailer" or suitable device which is run down inside of the casing on the end of a bailer line operated by the third reel or drum in the ordinary standard rig.

When drilling with the cable tool system ordinarily a heavy bit is used. This bit must pass readily through the inside of the pipe or casing and unless the formation is very soft, this drilling bit will cut a smaller hole than the outside diameter of the pipe or casing. When hard strata, rock or projecting boulders are reached it is necessary that the hole underneath the casing through that hard strata be enlarged, or "underreamed," that is reamed out under the casing, so that the casing may follow down the well hole. Such a device, which will expand to cut a hole larger than the casing, after it has been dropped through the casing, is called an "*underreamer*."

Ordinarily, in underreaming, this well casing is held up a suitable distance above the bottom of the hole or above the ledge through which the hole has been extended, so that the string of tools with the underreamer

on it may have sufficient drop to crack off parts of the ledge, and thereby enlarge the hole.

This is well set forth by Judge Cushman in his opinion in the case of Union Tool Co. v. Wilson & Willard Mfg. Co., 237 Fed. 837, in the suit to restrain the manufacture of underreamers embodying the Wilson invention set forth in the patent in suit in the present case. Both these cases were heard by Cushman and decided concurrently, as is shown by Judge Cushman's opinion, 237 Fed. 847, or transcript of record on appeal in this case, page 65.

No contention that complainant invented any broadly new improvement can be sustained. It is definitely established that complainant's invention cannot be considered a "pioneer," but that on the contrary he was a mere improver in details of construction.

The devices of the patents to Edward Double, Defendant's Exhibits Double Patents Nos. 1, 2, and 3, were all produced years prior to any claimed invention by Mr. Wilson. The Double patent No. 1, number 734,833, was issued in 1903. The testimony in this case shows that the Union Oil Tool Co. manufactured these reamers from 1901 to after the date when the complainant produced his invention and put it on the market. The construction shown in Double patent No. 2 differs slightly, in certain features to which reference will hereafter be made in detail, from the showing in the first Double patent. This is also true of Defendant's Exhibit Double Patent No. 3.

Not only were these reamers on the market prior to Mr. Wilson's alleged invention, but there had been *manufactured and sold in 1902* underreamers whose

construction is illustrated in this case by Defendant's Exhibit "Fred W. Jones Reamer Type 2," which is known by the short title of "Jones Removable Bowl Reamer," and was referred to by Judge Cushman in his opinion on page 75 of the record.

It is to be noted in this connection that Judge Cushman finds as a fact that "these machines were manufactured and sold after the time of patenting Double's device *and more than two years before the application of Wilson for the patent in suit.*"

All of these were successful devices for the purpose and none of them were "abandoned experiments." Each forms a part of the successful prior art and confines the scope of the Wilson invention within narrow limits. Each must be considered in determining (1) whether Elihu C. Wilson invented anything, and if so, (2) what the scope of his invention was.

While it is not one of the issues on this appeal, *the fact* remains that any underreamer built according to the Wilson patent in suit is a clear infringement of claims 1, 2, 6, 7 and 8 of the Double patent 734,833, "Defendant's Exhibit Double Patent No. 1," and that the Wilson reamer cannot exist apart from its embodiment thereof of the underlying basic Double invention.

In his opinion in this case Judge Cushman says:

"The particulars in which the Wilson device infringes the Double invention have already been pointed out in the decision this day filed in #1540. This marks the particulars in which the Wilson device was anticipated by the Double patent."

[Record p. 70.]

(In passing, it should be borne in mind that Judge Cushman here was referring solely to *Double patent No. 1, number 734,833*,—and did not refer to either *Double patent No. 2 or 3.*)

Let us therefore first analyze the Wilson patent and invention and ascertain what of the theretofore old and well known devices, elements and combinations Mr. Wilson appropriated and what changes he made therein. *It is clear that he can secure a monopoly only of such changes.*

In general terms the Wilson reamer may be described as comprising:

- (1) A round hollow body;
- (2) A pair of cutters, bits or slips;
- (3) A rod for actuating the cutters or slips;
- (4) A spring for exerting tension on the rod.

These four principal elements are found in the devices of each of the *Double patents No. 1, 2 and 3* and in the "*Jones Removable Bowl Reamer*," and in the same operative relations to each other. As said by Judge Cushman (237 Fed. 843):

"The means adopted by Wilson of collapsing, expanding and holding the cutters in reaming position are equivalents, substantially the same as those of *Double*."

In the Wilson reamer the lower end of the body is provided with an open slipway at each side. This also is true of the prior *Double* reamers and was one of the features of novelty of the original *Double* invention.

Each of Wilson's cutters has a shank portion which slides in its slipway in the body. This is also true of the Double prior patented reamers and was one of the features of novelty of original Double invention.

The sides of the slipways of the Wilson reamer have dovetails or shoulders and the shanks of the cutters are provided with bearing-shoulders or dovetails 42 to engage the ways 3 formed by the dovetails or shoulders on the side walls of the slipways. These correspond exactly in function with the dovetail flanges or shoulders 29 on the sides of the cutter shanks and the dovetail slipways 9 of the Double patent No. 734,833 (No. 1) and the shoulders or ridges 12 and the dovetail shoulders or lugs 14 of the Double patent 748,054 (No. 2). [Record pp. 982-987.] These were one of the features of novelty of the original Double invention.

The body of the Wilson reamer, at the ends of the open slipways 3, is provided with inclined shoulders or "beveled end faces 17" against which contact shoulders 16 on the cutters to cause the tilting action of the cutters from collapsed to expanded position. The same action takes place in the prior Double reamers and by the same general means, to-wit, the end of the body is provided with a rounded end 25 (in Double patent 734,833, No. 1), or with beveled or inclined shoulders *a* [Fig. 1 Double patent 748,054, Record p. 982] and the cutters with shoulders 26. Again we find appropriation of the Double invention by Wilson.

The Wilson reamer body is hollow to receive the reciprocating rod or mandrel 5' provided with a pivot-

key or head 5 and each cutter is provided with key-seats or recesses 18 by means of which the cutters are hung on the head of the rod and may tilt thereon. In the Double patent No. 1 the spring actuated rod 11 plays up and down in the gore of the body, the cutters each have a key-seat or socket 16, providing for the tilting action of the cutters as they hang on the rod 11. Both the Wilson and the prior Double reamers have the coiled spring for actuating the rod and thereby the cutters.

There are, however, certain specific or detail structural differences between the Wilson reamer and these prior Double reamers. These are:

(1) The particular formation of the lower end of the body,—in Wilson this is a “pronged” formation terminating in “forks”;

(2) A removable shoulder on which the lower end of the tension spring rests;

(3) A transference of the tilting shoulders 17 of the body from the central end portion to the extreme edges of the end of the body, i. e., to the ends of the “forks” of the “prongs”;

(4) A change in the form of the cutters by transferring the location of the tilting shoulders of the cutters from the central portion of the cutters (as shown in the drawings of the first Double patent) to the extreme outside edges of the cutters and forming two separated and independent tilting shoulders 16 (required by the “pronged” or “forked” formation of the body), forming “shouldered” cutters;

(5) A transference from the central end portion of the body to the side surfaces of the prongs of the intrust bearings against which the cutters

bear when in expanded or reaming positions. (Only referred to in the Wilson patent as "*spreading bearings.*")

(6) The straightening of the dovetail shoulders or ways 3 and the corresponding inclining of the "spreading bearings 9."

None of these changes in form have been embodied in any of the Double improved reamers or the Type "F" reamer.

If we eliminate from consideration the specific change in interrelation of parts (to-wit, of the pronged body and shouldered cutters) and the specific change in specific mode of operation of the cutters in expansion and contraction in the Wilson reamer due to the "pronged" or "forked" formation of the end of the body (change No. 1 above), and to change No. 4 above, and consider this formation broadly, it is clear that such "pronged" or "forked" formation was present in and utilized in the "Jones Removable Bowl Reamer" (Defendant's Exhibit Fred W. Jones Reamer Type 2).

Judge Cushman says [Record pp 75-76]:

"This removable bowl reamer *anticipated the forking of the lower extension* of the patent in suit insofar as permitting the rod integral with the head or tee thereon—which carries the cutters—to be inserted from the bottom is concerned. *These forks in the removable bowl reamer also form ways for the cutters;* but the forks in this reamer were not joined at the bottom in any way. *The shanks of the cutters bore at all times against the prongs and did not collapse between them.*"

Mr. Wilson's conception, however, included a specific interrelation between these terminal prongs or forks of the body and the "shouldered" cutters which is not present in or utilized in this Jones Removable Bowl reamer. This detail interrelation and specific mode of operation is the production of a widened or thickened cutter shank which extends at all times in between these prongs and when the slips or cutters are in their collapsed positions the cutter shanks extend directly between these prongs, as illustrated for instance in Fig. 1 of the Wilson patent. [Record p. 977.] This is an action which was not present in any of the prior Double reamers nor in the Jones Removable Bowl reamer and an action which it is conceded is not present and has not been embodied in any of the reamers manufactured by the defendant company.

Of this feature Judge Cushman has said (237 Fed. 845):

"The effect of this changed formation, from the hollow slotted extension to the pronged formation is rather *to permit of additional features and the accomplishment of further action.*

The change permits the cutter shank to collapse *between the prongs*, which permits of more stock in the cutter shank, eliminating the notch on the inside, which is a feature of the Double cutter, above the inwardly projecting shoulder, which notch in the Double cutter is necessary to allow of the collapse of the cutter over the lower end of the extension, the web of which is unbroken. There is testimony to the effect that this notch constitutes a weakness in the Double cutter.

This provision for the collapse of the cutter *between the prongs* is the *chief additional function* accomplished by the pronged formation, although it also permits of the assembling of the reamer from the bottom, instead of the top, and has an advantage in permitting the remachining of the lower end of the body of the reamer.”

Judge Cushman further says [Record p. 71] :

“The main purpose of the forked formation, and the function to which it contributed, was, on the collapse of the cutters, *to allow the cutter shank to swing in between the fork instead of the cutters swinging entirely over the lower end of the reamer body*. In this respect none of the devices made by the defendant encroach in any way upon the patent in suit.”

Judge Cushman further emphasizes the change in specific mode of operation of the Wilson reamer in his opinion on the rehearing. He says :

“The forked formation of complainant’s reamer body *was essential to the complete collapse of the cutters*.” [Record, p. 84.]

The improvement which Mr. Wilson produced is absolutely founded on this collapse of the cutters *in between* the prongs or forks. This was a change of form made by Mr. Wilson in both the body of the reamer and in the cutters to *accomplish* this supposed improvement. This was *the essence* of Mr. Wilson’s invention. The two changes of our foregoing analysis (1) and (4) are absolutely correlated to secure this possibility of the thickened shanks of the cutters and of these extending in the space between the prongs at all times and permit-

ting the complete collapse of the cutters with the cutter shanks in the space between the prongs.

Defendant is not charged with having used this essential feature of the Wilson invention. Yet it is this interdependent relation of the prongs or forks and the “shouldered” cutters which differentiates the Wilson reamer from the Jones Removable Bowl reamer. This was the extreme limit of novelty of the Wilson invention.

This interdependence between the forked or pronged reamer body and the thickened shank cutters with their separated independent tilting shoulders 16 and separated and independent inthrust bearing faces 43 produce a specific new mode of operation (*new in the specific interdependence*), which is the distinguishing characteristic of the Wilson reamer from the Double prior reamers and from the Jones Removable Bowl reamer. If patentable novelty is to be found in the Wilson reamer *it is in this new interdependence.* Judge Cushman recognizes this as the *important* contribution to the art by *Mr. Wilson.* He says:

“The fact that defendant did not appropriate the, perhaps, relatively more important conception of Wilson, *whereby the cutter shanks were allowed to collapse between the prongs.*” [Record p. 79.]

Mr. Wilson, in his representations to the government upon which he secured his patent, gives another and additional advantage to the “forked” or “pronged” formation.

He stated that one of the objects of his invention was

“To leave a maximum open space between the cutters to receive the loose material or sludge at the bottom of the well or other opening during the operation of drilling.” [Spec. Wilson patent, Record p. 979, ll. 11-20.]

This Mr. Wilson says is accomplished by the forked formation. See record, page 980, Wilson patent specification, lines 75-83, where he refers to the location of the spreading bearings 9 and says:

“Said bearings are *at the sides* of the lower ends of the body, thus engaging the outer edges” (only) “of the cutters to hold the cutters apart and leaving an open space between the middle portions of the cutters for a greater distance upward from the lower ends of the cutters *than would be the case* were the cutters held apart *by any intermediate portion between the lugs.*”

(It is to be noted that this matter was introduced into Mr. Wilson's application for his patent by the amendment D [Record pp. 1044-1049, particularly top of p. 1046]. The patents to Double had been cited against Mr. Wilson's application. The patent office had no knowledge of the Jones Removable Bowl reamer and could not and did not cite that.)

None of defendant's reamers have ever been modified to secure this object of Mr. Wilson's improvement. On the contrary all of them have “the cutters held apart by an (y) intermediate portion between” the cutters. So has the Jones Removable Bowl reamer.

The two advantages novel to Mr. Wilson from the “pronged” or “forked” formation in combination with the “shouldered” cutters are:

(1) The strengthening of the cutter shanks *which swing in between* the forks and at all times are *between the forks*.

(2) The provision of the open space at the centers of the cutters and between the cutters, leaving a maximum space to receive loose material.

It has been found by Judge Cushman and cannot be denied by complainant that none of defendant’s reamers embody either of these advantages.

Judge Cushman says [Record p. 75]:

“So that, in any event as long as the defendant has confined itself to the original outline of its structure, there is no infringement of this claim.”

In none of defendant’s reamers has the lower end of the reamer body been entirely cut away at the center to provide a space in which the shanks of the cutters may swing between the prongs formed by such cutting away. Even in Type “F,” as referred to by Judge Cushman, the lower end of the reamer has a bearing formed partly of the metal at the end and partly by the removable block, corresponding to the removable block 10 of Defendant’s Exhibit Double Patent No. 3 [Record pp. 988-993], two views of which are set forth as a part of Judge Cushman’s opinion on page 74 of the record.

The presence of this continuous bearing across the end of defendant’s reamers prohibits the formation of this open space between the middle portions of the cut-

ters referred to by Mr. Wilson in his patent specification. It is thus seen that not only does the retention of this original formation of the body of the Double reamer prohibit the strengthening of the cutter shanks *in the manner of Mr. Wilson's conception, but also the swinging in between* any prongs or forks of the shanks of the cutters so that neither of the two advantages referred to have been appropriated by defendant in any of its reamers. These being the two novel advantages, the novel *results* secured by the forked or pronged formation and the "shouldered" cutters, and being the differentiation between the Wilson invention and the prior art as illustrated by the Double patents and the Jones Removable Bowl reamer, it is clear that the patent upon Mr. Wilson's invention *must be limited* to this novel detail or change of interrelation of these two elements and to the specific mode of operation or change in mode of operation thus produced by this novel interrelation, which specific mode of operation or specific change in the mode of operation is the distinguishing feature of and the new result secured by the Wilson invention. The Wilson patent must be so limited that it may not embrace what was part of the prior art.

A careful reading of the description of the Wilson specification fails to disclose any other advantages sought to be accomplished by Mr. Wilson's invention, or to show a description of any such advantages, and, as we shall point out in detail, Mr. Wilson has not *claimed* any such other advantage, but on the contrary has specifically and intentionally limited all of the claims of his patent to these advantages. The Wilson patent was evidently drawn with the distinct and

avowed purpose of limiting the claimed novelty of the Wilson invention to these two advantages.

If the novelty of the alleged Wilson invention is adjudged to be sufficient to be entitled to any application of the doctrine of equivalency to any of the claims of the Wilson patent, or in particular to claims 9 and 19, then such application must be limited and characterized by this particular change in co-operative relation and principle of action of the pronged or forked body and the "shouldered" cutters and the interrelation of such prongs to the movement of the cutter shanks *in between* such prongs, as this was the distinctive feature and new result of such co-operation, relation, change of form and location of the parts.

If either claim 9 or 19 of the Wilson patent is entitled to any application of the doctrine of equivalency, clearly such claim is not entitled to such a broad interpretation as would render the respective elements of the prior Double reamers of Double patents Nos. 1, 2 or 3, respectively, or of the prior Jones Removable Bowl reamer, equivalents, in the absence of any modification thereof to secure either of the advantages of the changes upon which Wilson's invention is so predicated.

In other words, such application of the doctrine of equivalency must be so specific as to eliminate and remove as nonequivalents the pronged formation and the form of cutters of the Jones Removable Bowl reamer, and the continuous bearing for the cutters and the continuous bearing on the cutters of the Double reamers. No claim in the Wilson patent can be valid

which is so construed as to cover either of these. Both were prior.

Judge Cushman finds that the Jones Removable Bowl reamer “anticipated the lower extension of the patent in suit so far as permitting the rod integral with the head or tee thereon—which carries the cutters—to be inserted from the bottom is concerned. These forks in the removable bowl reamer also form ways for the cutters.” [Record p. 75.]

Of the same prior reamer he also said: “The shanks of the cutters bore at all times against the prongs and did not collapse between them.” [Record p. 75.]

The collapse of the cutters *with the shanks in between the prongs or forks*, then, was the essential change in the mode of operation and the new result. No elements could be equivalents which did not provide for this change in the mode of operation and new result.

Judge Cushman has found that none of defendant’s reamers “appropriate the, relatively, more important conception of Wilson; *whereby the cutter-shanks were allowed to collapse between the prongs*. [Record p. 79.]

If then the new result of the “pronged” or “forked” formation and of the “shouldered” cutters was the two advantages heretofore pointed out, both incident to providing for the cutter shanks working in between the prongs of the body, and defendant has not appropriated this distinguishing feature it clearly has not infringed.

On this appeal defendant may stand on the facts as found by Judge Cushman. Defendant does not need to

ask this court to overrule a single finding of fact. It is defendant's contention that Judge Cushman's decision as to claims 9 and 19 was based on an entire misunderstanding and totally erroneous interpretation of the *subject matters* as well as the legal effect of these claims; that Judge Cushman construed each of these claims 9 and 19 as addressed to a subject matter neither mentioned therein nor set forth in the Wilson patent as one of Mr. Wilson's improvements nor within the true scope or interpretation of such claims. That as construed by Judge Cushman such claims would also be wholly anticipated and void, and then, further, that in fact the defendant has never used what Judge Cushman construed these claims to cover. That he overlooked in his final analysis, even on the theory of his opinion, the distinguishing factor between that to which he addresses his charge of infringement and that which is actually used by defendant.

In order to understand either claim 9 or 19 it is not only necessary that the court should fully understand the change made in the particular formation of the lower end of the body of the reamer by making it "pronged" and terminating in "forks," and bear fully in mind that such pronged and forked formation *per se* was found in the prior "Jones Removable Bowl Reamer," but it is also necessary that the court should fully understand the change in the form of cutters made by transferring the location of the tilting shoulders of the cutters from the central portion of the cutters (as shown in the drawings of the first Double patent) to the extreme outside edges of the cutters

and forming the same as two separated and independent tilting shoulders 16. *It is the interrelation of these "shouldered" cutters and the pronged or forked formation which alone constitute the novelty of the Wilson invention and which is the thing claimed in claims 9 and 19.*

A study of the history of the application for the Wilson patent and of the specification of such patent discloses the fact that claims 9 and 19 are drawn to this specific interrelation of the pronged or forked formation of the body of the reamer and the "shouldered" cutters. That this is the subject-matter to which each of these claims is addressed. That without doing violence to the clear import of such claims the court cannot ignore the definite and certain limitations of each of these claims to the pronged or forked formation and to the "shouldered cutters" as distinguished from the prior reamer bodies and cutters.

The feature of the cutters of the Wilson patent which is dwelled upon by the testimony of complainant and of his brother, W. W. Wilson, as forming the improvement over the cutters of the devices of the respective Double patents Nos. 1, 2 and 3 and of the Jones Removable Bowl reamer is the transference of the tilting shoulder 26 of the Double patent No. 1 from the front face of the cutter and the division of this shoulder into two separate and independent shoulders (16, Wilson patent) arranged at the sides of the cutter, thus permitting the shank of the cutter to be thickened and strengthened and avoiding the weakening of the cutter caused by cutting the V-shaped notch to form the tilting shoulder 26.

As we have already pointed out, this transference of the tilting shoulder to the sides of the cutter and the formation of such shoulders 16 as independent and separated shoulders, with the shank of the bit extending inwardly beyond the plane of such shoulders and beyond the plane of the bearing faces 43 formed on the inner faces respectively of such shoulders required the elimination of the center portion of the web at the bottom of the Double reamer, thus creating the pronged or forked formation. Without such pronged or forked formation Wilson's "shouldered" cutter cannot be used, and without such "shouldered" cutter the pronged or forked formation has no new or advantageous result and is clearly anticipated by the Jones Removable Bowl reamer.

As said by Judge Cushman, in his opinion in 237 Fed. page 845, these two features are necessarily inter-related and the effect of the changed formation (to the forked or pronged form) is to permit of these additional features and the accomplishment of this further action. Judge Cushman says further:

"The change permits the cutter shank to collapse between the prongs, which permits of more stock in the cutter shank, eliminating the notch on the inside, which is a feature of the Double cutter, above the inwardly projecting shoulder, which notch in the Double cutter is necessary to allow of the collapse of the cutter over the lower end of the extension, the web of which is unbroken. There is testimony to the effect that this notch constitutes a weakness in the Double cutter." (237 Fed. 845.)

The original application of Mr. Wilson was rejected by the commissioner of patents upon the Double patents.

A careful study of the history of the application for the Wilson patent discloses the absolute limitation of these claims to this interrelation of the forked or pronged formation of the body and the particular construction of the shouldered cutters. This record appears in the transcript of record, pages 1023 to 1075.

It will be noted particularly that the statement, in the specification of the Wilson patent as issued, contained in lines 16 to 20, transcript, page 79, to which reference has already been made, and setting forth that one of the objects of the invention was "to leave a maximum open space between the cutters to receive the loose material or sludge," etc., was inserted by the last amendment to the specification and claims. See amendment E, page 1052 of the record, this matter appearing at the bottom of said page. In this connection it will be noted that claim 19 was submitted in connection with this amendment.

Not only was this statement of the object and function of this interrelation between the forked formation and shouldered cutters inserted by this amendment *to differentiate from the Double prior reamers* and to secure an allowance of the Wilson application, but it is to be noted that by the prior amendment D [Record pp. 1044-1048, particularly top of p. 1046], the two terminal paragraphs of the specification of the Wilson patent were inserted, these paragraphs appearing in the patent in lines 63 to 90, page 980, of the record. That amendment also was for the purpose of differentiating from the prior Double reamers and set forth

this feature of cutting away the center of the web of the Double reamer and the transference of the tilting shoulders to the sides of the cutter and forming the same as independent and separated shoulders so that a maximum open space between the cutters was provided to receive the loose material or sludge. The drawings of the Wilson application were amended in this connection. The original drawings as submitted upon the filing of the application are shown on pages 1057-58 of the record. Referring to page 1058 and to Fig. 9 and comparing the same with the two sketches submitted by the amendment appearing on pages 1055-1056 of the record, and comparing the same with Fig. 9 as it appears in the Wilson patent [Record p. 978], it will be seen that this figure of the drawing was amended by adding two horizontal lines, one connecting the lower ends of the edge lines of the shank of the cutter and the other connecting such edge lines to indicate the angle in the face of the shank of the cutter, as shown in the side view, Fig. 8, bringing forth directly into the drawings the two tilting shoulders 16 and their separated conditions.

In this amendment E Mr. Wilson called particular attention as follows:

“The Double cutter has its bearing face entirely across the cutter instead of on the inner side of the shoulders at the sides of the shank as specified in these claims.” [Record p. 53.]

That the allowance of the Wilson patent and claims was secured upon the representations of Mr. Wilson to the examiner and that he relied upon this interrela-

tion between the termination of the body portion in prongs forming a fork and this “shouldered cutter feature” appears from the record, page 1047, where it is said:

“The Double patent certainly does not cover on the reamer terminating in prongs forming a fork. He apparently quite overlooks the difference in the construction of the two reamers. I will ask you to again request the allowance of that claim.”

In connection with this last referred to argument we call attention to the fact that in order to avoid the rejection on reference to the prior Double patents the Wilson specification was amended in three important particulars. [See p. 1045 of the record.]

Referring to the Wilson patent as issued it is found that this amendment inserts the matter in lines 76-81, page 979 of the record, and lines 92 to 104, same page, and inserts the last two paragraphs of the specification, record page 980, commencing with line 63 and terminating in line 90. The last paragraph thus inserted is of extreme importance in understanding the subject-matter of claims 9 and 19 and in understanding the reference to the *two shoulders* on each cutter. This paragraph, so inserted by Mr. Wilson to differentiate from the Double cutter, is as follows [Record p. 1046]:

“I term the cutters ‘shouldered cutters’ for the reason that the rounded corners 16 which extend away from the shank at right angles thereto are in the nature of shoulders, the inner faces 43, of which engage the spreading faces 9 of the side lugs 2’ to brace the cutters and hold them apart.”

In this connection the court's attention is directed to the opinion of Judge Cushman in which he discusses the effect of these amendments, although not applying the effect of these amendments except as to claims 16 and 17, see particularly page 68 of the record. As said by Judge Cushman:

“The effect of this amendment to the drawings was to make plain that the inner bearings on the face of the cutters were out nearest its lateral face entirely beyond the perpendicular sides of the shanks.”

Thus showing the thickened shank extending inwardly beyond the shoulders 16.

Not only do the amendments above referred to apply to claims 16 and 17 and estop the patentee Wilson from avoiding the clear limitations and restrictions thus placed upon such claims, but such amendments clearly are an interpretation of the same language and terms when appearing in other claims of the patent. For it was upon these representations and upon these amendments both to the specification and to the drawings that the Wilson patent was allowed and granted by the patent office.

To permit Mr. Wilson to now contend for a different meaning of the words used in his claims from the meaning asserted by him and the definition given thereto by him, is to change the contract as made by him and the patent office. As said by the court in *Quinn v. J. H. Faw, Inc.*, 235 Fed. 166-169:

“The case is the common one in which the applicant assents to conditions imposed in the patent office, and then, having got his patent, tries to

expand it to cover exactly what he agreed it should not. Such a game of hide and seek the courts have always refused to allow. He had his remedy by appeal, and only by appeal, if the examiner was wrong.”

As said by the Circuit Court of Appeals in *Strause Gas Iron Co. v. Crane Co.*, 235 Fed. 126:

“A limitation imposed by the patent office to distinguish from prior references, and accepted by the applicant, cannot be disregarded, although it may have been unnecessary.”

“A careful scrutiny of the action in the patent office leaves us no doubt that this was the meaning attributed to the phrase by the examiner, and that it was only when the phrase with that meaning was inserted in the two claims that he would allow them.”

We will point out the fact hereafter that claim 19 is an exact duplicate of claim 16 in its wording in respect to the element of the cutters. The limitation to “shouldered” cutters in the sense defined by Mr. Wilson to the patent office was necessary to distinguish from the prior Double cutters. The interpretation and meaning placed by Mr. Wilson upon the terms used by him is clearly binding upon him and must be adjudged the meaning of these terms wherever they appear in the patent thus afterwards issued to him.

As said by Circuit Judge Knappen, speaking for the Circuit Court of Appeals for the Sixth Circuit, in *Michigan Engine Valve Co. v. Monarch Mfg. Co.*, 233 Fed. 107, 110:

“We think it clear that claims 1 and 2 of the patent in suit must be construed as limiting the pin centrally-projecting from the securing plate as formed integral therewith; for, conceding that there was nothing in the patent office rejection of the claims on reference to Morgan which made it necessary to limit the claims to a pin formed integral with the plate, and that such limitation was not necessary to patentability, yet an intentional limitation is none the less effective because self-imposed or unnecessary. *McLain v. Ortmyer*, 141 U. S. 419, 425; *Cimiotti v. American Co.*, 198 U. S. 399, 415. * * * The intention to limit to an integral construction seems the more obvious from the facts that the specification states that the pin ‘is preferably formed integral with the plate,’ and that the original claims made no mention of integral construction—the use of the word ‘integral’ in the substituted claims thus raising the natural inference that the word was intended in the same sense as used in the specification, viz.: ‘formed integral with the plate.’”

After a rejection of the Wilson application on reference to the patent to Swan and Double [Record pp. 1035-36] Mr. Wilson amended his application. By this amendment B he submitted two claims [Record p. 1040] as 16 and 17. These two claims were rejected on the Double patents and cancelled in view of such rejection and claims 16 and 17 of the Wilson patent substituted therefor. These two cancelled claims throw great light on the specific character of the language used in claims 16, 17, 19 and in claim 9. These cancelled claims were:

“16. An underreamer cutter having shoulder or projections on its sides to form bearings to rest on the lugs of the underreamer body.”

“17. An underreamer cutter having shoulders to bear on the lugs of the underreamer body, and having shoulders or projections on its sides to bear against the shoulders on the inner faces of prongs of underreamer body when cutters are expanded to normal position for reaming.”

These claims were rejected on reference to the Double patent No. 2, number 748,054. [Printed in Record pp. 982-987.]

For these claims, claims 16 and 17 of the patent were substituted by the next amendment [Record p. 1048] and were thereafter rejected [Record p. 1051], the patent office stating:

“The examiner is unable to see wherein claims 16 and 17 distinguish from Double, 748,054, of record, and said claims are accordingly rejected.”

Mr. Wilson then makes the amendments to the drawings and to his specification to which attention has already been specifically directed. The drawings were amended to more clearly show that the shoulders 16 and bearing-faces 4^b of the cutters were arranged at the sides of the shank and as separated and independent of each other, with the thickened cutter-shank extending outward beyond the plane of these shoulders and bearing-faces and in front thereof. Mr. Wilson then says:

“The Double cutter has its bearing-face entirely across the cutter instead of on the inner side of the shoulders at the sides of the shank as specified in these claims.”

The original claims 16 and 17 did not specifically limit the construction claimed in the manner thus referred to by Mr. Wilson, and might possibly have been held to not be so limited to the separated shoulders 16 and bearing-faces 4³ on the sides of the shank. Claim 19 is submitted to the patent office by Mr. Wilson in connection with this last quoted statement and amendment.

Judge Cushman has decreed that none of defendant's reamers infringe either claims 2, 4, 8, 10, 11, 12, 13, 14 or 15, as well as claims 16 and 17. Judge Cushman has decreed that none of defendant's reamers have "an underreamer body terminating in two prongs" and he has directly held that the Jones Removable Bowl reamer did have "an underreamer body terminating in two prongs." Thereafter such a construction was not new at the time of Mr. Wilson's invention. Yet if we take claim 19 of the Wilson patent we find it calls for two elements only:

- (1) A body terminating in two prongs.
- (2) Cutters each having two shoulders and a bearing-face on the inner side of each of the two shoulders.

The first element is the underreamer body covered by claims 2, 4, 10, 11, 12, 13, 14, and which Judge Cushman decrees defendant has not embodied in any of its reamers. Does it not then follow of necessity that it must be by reason of the second element of this 19th claim that infringement was found? If so we find an absolute inconsistency in such finding. The second element is identically claim 16 which Judge Cushman

has found defendant does not infringe! The decree appealed from specifically finds, as does Judge Cushman's opinion, that none of the reamer cutters manufactured or sold by defendant have embodied the construction set forth in either claim 16 or 17. Compare now the second element of claim 19 and claim 16. They are:

CLAIM 19.

Cutters *each* having
two shoulders
and
a bearing-face on the
inner side of each of the
two shoulders of the
cutter.

CLAIM 16.

An underreamer cutter
having
two shoulders
and
a bearing-face on the
inner side of each of the
two shoulders.

(To engage said prongs.)

How logically can this same language mean two different things when addressed as it is to the same mechanical construction and when it was used by the same person and its meaning stated in the argument upon which both claims were allowed?

The words of description in these two claims are found to be identical. No rule of construction is better established than that such words must mean the same thing and have the same meaning, when used with reference to the same instrumentalities—either in a contract, a statute or in two claims of a patent. Thus the lower court has found that none of defendant's reamers embody the cutters called for by these claims, *and* that none of defendant's reamers embody the bodies called for by claim 19. Does it not necessarily follow that none of defendant's reamers has the com-

ination of which these particular construction of cutters and this particular form of body form the parts or elements?

Defendant submits that it is clear, definite and certain, and does not require construction or interpretation to show that claim 19, by the intentional wording (deliberately chosen by Mr. Wilson to differentiate the invention he claimed from the prior Double inventions), is limited (*first*) to the underreamer body

“terminating in two prongs,”

and that the function of such pronged formation as set forth by Mr. Wilson and as found by Judge Cushman is made a part of this element of the claim and made an essential and necessary part of the mode of operation of the combination, and without which no infringement is possible, and (*second*) is limited to the “shouldered” cutters adapted to swing in between such prongs.

As Judge Cushman has directly found that neither of defendant’s “Double Improved” nor “Type F” reamers contain *either one* of these two elements no infringement exists. To find infringement *both* of these features must be found to exist in combination in defendant’s reamers, and must be found to have in defendant’s reamers the features thus specified as distinguishing the combination from what preceded it, to-wit: the feature of novelty which attends such pronged formation, i. e., the separation of the expansion bearings or “spreading bearings” (as they are termed in the Wilson patent), into separate and independent parts or portions, *spaced apart from each*

other, and the “shouldered” cutter formation (1) to permit of increased depth of cutter shanks, thereby strengthening the cutters, (2) the swing of the cutter shanks at all times between the prongs or forks, and (3) the leaving “an open space between the middle portions of the cutters for a greater distance upward from the lower ends of the cutters than would be the case where the cutters held apart by any intermediate portion of the lugs.” (In all of defendant’s reamers this intermediate portion referred to is *at all times present and between the cutters.*)

“It is not within the rightful power of the courts to enlarge or restrict the scope of patents which by mistake were issued in terms too narrow or too broad to cover the invention, however manifest the fact and the extent of the mistake may be shown to have been.”

U. S. Repair & Guaranty Co. v. Assyrian Asphalt Co., 183 U. S. 342.

“It is the province of the inventor to make his own claims, and his privilege to restrict it.”

Fay v. Cordesan, 109 U. S. 408.

The specific language of claims 9 and 19, in view of the description of the Wilson patent and the proceedings before the patent office, forms definite and certain limitations voluntarily made by Mr. Wilson and cannot be ignored.

As said by the Supreme Court in

Keystone Bridge & Iron Co. v. Phoenix Iron Co., 95 U. S. 274, 278:

“Here again the patentees clearly confine themselves to *‘wide and thin bars.’* They claim the use in truss bridges of such bars when the ends are upset and widened in the manner described. It is plain, therefore, that the defendant company, which does not make such bars at all, but round or cylindrical bars, does not infringe this claim of the patent. *When a claim is so explicit the courts cannot alter or enlarge it.* If the patentees have not claimed the whole of their invention, and the omission has been the result of inadvertence, they should have sought to correct the error by a surrender of their patent and an application for a re-issue. *They cannot expect the courts to wade through the history of the art and spell out what they might have claimed.* Since the act of 1836, the patent law *requires* that an applicant for a patent shall not only, by a specification in writing, fully explain his invention, but that he *‘shall particularly specify and point out that part, improvement, or combination which he claims as his own invention or discovery.’* This provision was inserted in the law for the purpose of relieving the courts from the duty of ascertaining the exact invention of the patentee by inference or conjecture, derived from a laborious examination of previous inventions, and a comparison thereof with that claimed by him. This duty is now cast upon the patent office. There his claim is, or is supposed to be, examined, scrutinized, limited, and made to conform to what he is entitled to. If the office refuses to allow him all that he asks, he has an

appeal. But the courts have no right to enlarge the patent beyond the scope of its claim as allowed by the patent office, or the appellate tribunal to which contested applications are referred. When the terms of the claim in a patent are clear and distinct (as they always should be) the patentee, in a suit brought upon the patent, is bound by it. *Merrill v. Youmans*, 94 U. S. 568. He can claim nothing beyond it. But the defendant may at all times, under proper pleadings, resort to the prior art and general history of the art to assail the validity of a patent or to restrain its construction. The door is then opened to the plaintiff to resort to the same kind of evidence in rebuttal; *but he can never go beyond his claim*. As patents are procured *ex parte*, the public is not bound by them, but the patentees are. *And the latter cannot show that their invention is broader than the terms of their claim; or, if broader, they must be held to have surrendered the surplus to the public.*"

The contentions of complainant and the decision of the court below are against the settled rules of construction and fall within the denunciation of the Supreme Court in

White v. Dunbar, 119 U. S. 47:

"Some persons seem to suppose that a claim in a patent is like a nose of wax, which may be turned and twisted in any direction, by merely referring to the specification, so as to make it include something more than, or something different from, what its words express. The context may, unquestionably, be resorted to, and often is resorted to, for the purpose of better understanding the meaning of the claim; but not for the purpose

of changing it, and making it different from what it is. The claim is a statutory requirement prescribed for the very purpose of making the patentee define precisely what his invention is and it is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms. This has been so often expressed in the opinions of this court that it is unnecessary to pursue the subject further.”

Defendant had the right to take the formal statement of Mr. Wilson that what he claimed as his invention was the “pronged” or “forked” construction of body in combination with the “shouldered” cutter construction, *as defined by him before the patent office*. Defendant has never made, used or sold an underreamer embodying such a construction or having the function of the pronged or forked construction. *Judge Cushman has so found*. Defendant has never made, used or sold an underreamer having a cutter embodying such “shouldered” cutter formation. *Judge Cushman has so found*. It is clear that the court was not justified in eliminating these limitations from claims 9 and 19 in order to make them embrace and cover “something different” from what Mr. Wilson has actually claimed. (And this is true regardless of whether what Judge Cushman found as the infringement was in fact novel in the Wilson invention, or was in fact utilized by defendant. Both of which propositions are denied by defendant.) The situation might be different if any device of defendant’s had any element having the equivalent (in function and interrelation to the other parts claimed in the combination)—of (1) the forked or pronged construc-

tion and of (2) the “shouldered” cutter construction. But in testing such question of equivalency, the test is *the change* in interrelation and function brought about by the change from the old Double and Jones constructions to the “pronged” or “forked” construction in combination with the change to the “shouldered” cutter formation. The particular changes in these functions and the particular advantages and new results thereof have heretofore been pointed out. *Judge Cushman has distinctly found that neither of them exists in any of defendant’s reamers.* Judge Cushman has distinctly found that these distinguishing features of the combination thus claimed by claims 9 and 19 are not to be found in any of defendant’s reamers. To be equivalent to the pronged or forked construction, the substituted element must have the functions and attributes of that construction, i. e., the separation of the tilting shoulders and spreading bearings apart and wholly at the outside of the reamer body so that an open space is left between such shoulders and bearings; also such a “shouldered” cutter formation, that the shanks have the thickened and strengthened feature, and swing in between the prongs, utilizing *this change* in the mode or principle of operation or action. This Judge Cushman has found not to exist in any of defendant’s reamers.

Your Honors in the case of *Hardison v. Brinkman*, 156 Fed. 962, say:

“A patentee is bound by his claims and cannot claim a broader invention than that which he has specifically described therein, even though he may have been entitled to make broader claims.”

“It is not necessary to inquire whether Hardison has by his claims unnecessarily limited his invention, or whether he might have so worded the same as to cover the combination which is adopted by the appellee. He must be held to the combination which is described and claimed so explicitly.”

No application of the doctrine of equivalency can relieve complainant from this deliberate limitation of each and all of the claims of his patent to the pronged or forked construction with the function resulting therefrom and to the “shouldered” cutter formation, and the function resulting therefrom, or from the function resulting from the combination of these two. In other words, it is necessary even with a broad and liberal application of the doctrine of equivalency to find in the alleged infringing device such a formation of the underreamer body as to have the function of the forked or pronged construction (and the function wherein it differed because “forked” or “pronged” from the continuous web formation), which function has been found by Judge Cushman to be to—

“allow the cutter shank to swing in between the fork instead of the cutters swinging entirely over the lower end of the reamer body”

and to find in the alleged infringing device the “shouldered” cutter formation (as defined by Mr. Wilson in distinguishing such “shouldered” cutter formation from the Double cutter), and the change in function which this particular change to “shouldered” cutter formation has accomplished in combination with the “pronged” or “forked” formation.

A device to be an equivalent must perform substantially the same function in substantially the same manner as the one for which it is substituted. It is necessary, therefore, to first ascertain the novelty of function and interrelation and then test equivalency by the presence or absence of the newness of construction and function in the association of elements. The test is, has the cutter element, so sought to be held as an equivalent, the general shape and construction that when associated with the body, the two have the *improved* relation and function claimed by Mr. Wilson? Inasmuch as it cannot be claimed that defendant has ever departed from the construction in which the cutter "has its bearing-face entirely across the cutter instead of on the inner side of the shoulders at the sides of the shank" [Wilson's differentiation of the claimed cutter formation from the Double, Record p. 1053], it cannot be claimed that any of defendant's cutters are the equivalent of the cutters claimed in claims 9 or 19. This alone then would negative the charge of infringement. But it must also be remembered that the other element of the claim is the forked or pronged body construction. Judge Cushman has also held that defendant has never utilized that.

Whether claims 9 and 19 are considered solely from the view point of their specific limitations, i. e., (1st)—to the termination of the underreamer body in a fork having prongs *and to the consequent function of such pronged formation*, or (2nd)—to the "shouldered" cutter formation with the bearing face on the inner side of each shoulder and separated by the shank extending (unbroken or non-notched) inward beyond the plane

of the shoulders 16 and bearing faces 43, *or* (3rd)—to the combination of these two features together, and therefore to both of the limitations, and their inherent independence in function and result (which is doubtless the true interpretation of both claims 9 and 19), infringement does not exist.

In his specification, Mr. Wilson says:

“I so construct the mouth of the underreamer *as to dispense with stock between the collapsed cutters, thus enabling the cutters to close together.*” [Lines 33-35, p. 979 of Record.]

“Thus * * * leaving an open space between the middle portions of the cutters for a greater distance upward *than would be the case were the cutters held apart by an intermediate portion between the lugs.*” [Lines 74-90, p. 980 of the Record.]

(As is the case with all defendant’s reamers and with the prior Double reamers, i. e., the intermediate portion of the web is at all times between the cutters.)

We thus find that Mr. Wilson has described another alleged advantage of his forked body and shouldered cutter construction. *But* this advantage has not been copied by defendant. This is emphasized at this point, as we have already seen that none of the representations and distinctions upon which Mr. Wilson actually secured the allowance of the claims by the patent office apply to defendant’s reamers, but exclude all of defendant’s reamers. On the contrary each of these was an effort by Mr. Wilson to point out distinctions between what he claimed to be his invention and what Mr. Double had produced and defendant’s predecessor

has used, which is also what defendant has continued to use. We find that Mr. Wilson has specified in his patent all the advantages he believed his invention possessed over the prior art. Is it not significant that nowhere in the Wilson patent is there any mention of the feature which has been held by Judge Cushman to be a part of Wilson's invention and to have been appropriated by defendant?

But let us parallel for comparison claim 19 and the findings of fact of Judge Cushman. Mayhap, it will throw some light upon the interpretation given to claim 19 by Judge Cushman or demonstrate the error of the decision of the lower court.

CLAIM 19:

An underreamer comprising
(1) a body terminating
in two prongs.

COURT'S FINDINGS:

“The main purpose of the forked formation, and *the function* to which it contributed, was on the collapse of the cutters, to allow the cutter shank to swing in between the forks instead of the cutters swinging entirely over the lower end of the reamer body. *In this respect none* of the devices made by the defendant encroach upon the patent in suit.” [Record p. 71.]

(2) cutters each having two shoulders and a bearing-face on the

“By this action and upon familiar principles of estoppel, the claims

inner side of each of
the two shoulders
*to engage said
prongs.*

were clearly limited and restricted to a cutter with the inner bearings confined to its sides and not extending across its face. In all of defendant's alleged infringing devices, the bearings extend all the way across the cutter." Record pp. 68-69.]

Judge Cushman has held that defendant has not infringed any of the claims which call only for the first element *per se*; that none of defendant's reamers embody such a pronged construction. Judge Cushman has also held that none of defendant's reamers infringe either of the claims which call for the second element of this claim *per se*; that none of defendant's reamers embody such a "shouldered" cutter. If correct in such decisions, how can we reconcile the finding that claim 19 is infringed? Clearly it is entirely antagonistic to his other findings. It will be found that such infringement was predicated by Judge Cushman upon a theory of a complete and total reconstruction of claim 19 to make it cover something which Judge Cushman believed to be a part of Mr. Wilson's invention, *but which Mr. Wilson never claimed*. This is a clear, positive and distinct violation of the rule that the courts are to construe the claims, not to remodel or redraft them. Not to mold them "*like a nose of wax*." (*White v. Dunbar, supra.*)

Judge Cushman's decision that defendant has infringed claims 9 and 19 is most definitely shown by

his opinion not to be predicated upon any theory whatever that defendant has used the novelty and invention found by him to reside in this “pronged” or “forked” formation of the body, with its peculiar or particular function, *or* the “shouldered” cutter, with its special interrelation to and function in combination with the “pronged” body, so definitely specified in these claims, or to possess any of the advantages or benefits asserted for these particular constructions or interrelation of parts or to secure the new result attributed to them by Mr. Wilson in his patent.

Not only is this shown by the portions of Judge Cushman’s opinion heretofore referred to but by reference to his opinion respecting claim 8.

Judge Cushman specifically holds that defendant has not infringed either claim 8 or claims 2, 4, 12, 13 or 14:

“As long as defendant has confined itself to the original outline of its structure.” [Record p. 75.]

And also says:

“In any event with the detachable bolt (11) between the prongs in Wilson’s device, *the cutters are permitted to collapse between the prongs.*” [Record p. 75.]

It is thus seen that all the way through Judge Cushman’s decision the particular feature of novelty and advantage of the “pronged” formation and of the “shouldered” cutters was the permitting of the cutter shanks to collapse *between* the prongs and occupy the open space between the ends of the prongs, thereby securing the advantages attributed by Mr. Wilson to

such formation and upon the assertion of which Mr. Wilson secured the allowance of the claims by the patent office. It must be borne in mind at all times that when Mr. Wilson adopted this differentiation of his structure (as a “pronged” body and as “shouldered” cutters) he used these differentiations to distinguish the formation theretofore produced by Mr. Double and used by defendant’s predecessor in business, Union Oil Tool Company, *and by defendant in all of the under-reamers manufactured and sold by the defendant.* Judge Cushman finds that defendant has never made or sold a reamer which permitted the cutters to collapse between the prongs of the body. We submit his decision as to infringement of claims 9 and 19 is based on a misconception of the rules of interpretation and of the “doctrine of equivalency.”

Judge Cushman says:

“Passing to claims 9 and 19, it has already been found that, *as ways* for the cutter to slide, or ride on, the faces of the prongs and lugs were no more than equivalents of the ways found in the Double invention.” [Record p. 76.]

Here Judge Cushman clearly refers to his opinion in *Union Tool Co. v. Wilson & Willard Manufacturing Co.* (237 Fed. 837, particularly page 845), construing the breadth of novelty of the original Double invention of patent No. 738,833 (“Defendant’s Exhibit Double Patent No. 1” herein).

Judge Cushman found this Double invention to be broadly new. He said:

“The main question in the case is: What range of equivalents, if any, is complainant entitled,

under the patent in suit, to be protected against? Upon consideration of the prior art, including the alleged anticipating patents and devices, and the marked success in the trade and in operation of the Double underreamer, *I find that it constituted combinations of decided merit, entitling complainants to a fair range of equivalents.*" (237 Fed. 839.)

Within the broad scope of the novelty found in the Double invention and tested by such broad novelty the Wilson construction and interrelation of parts were substantially the same and the body, and cutters, the tilting shoulders, the open slipways with their dovetails and the interrelated dovetails on the cutters, of the Wilson reamer, each performed its function in the reamer, *in substantially the same manner* as in the particular embodiment of the Double invention shown and described in the Double patent. This was Judge Cushman's finding in said suit.

But Judge Cushman has not found and could not find that in any of defendant's reamers defendant had used a "pronged" or "forked" formation of body within the meaning of such a construction *as differing from the prior bodies or as having the newness* in mode of operation or of change of function or of mode of operation, or newness of interrelation with the cutters, interjected into or produced in an underreamer by such change *from* the bodies of the prior art to such "pronged" or "forked" body. Nor has Judge Cushman found nor could he find that in any of defendant's reamers defendant had used a "shouldered" cutter formation within the meaning of such construction as

differing from the cutters of the prior art or having the newness of mode of operation or of change of function or of mode of operation or interrelation to the “pronged” or “forked” body, interjected into or produced in an underreamer *by such change* from the cutters of the prior art to such changed “shouldered” cutters. This was the test of equivalency to be applied to this Wilson invention.

The question was and is: Has defendant in its reamers used a “pronged” or “forked” body and “shouldered” cutter which embodies *this changed* function, mode of operation and interrelation thus created by the changes from the prior art bodies and cutters and producing this new interdependence?

The test of equivalency in the case at bar is not, are the body, cutters, etc., of the Wilson reamer the mechanical equivalent of those of the Double invention *viewed in the breadth of the Double invention*, but has defendant’s reamer adopted the changes in function, mode of operation, and interrelation of parts (as to body, cutters, etc.), that was produced by Mr. Wilson and which distinguish Mr. Wilson’s production from the prior underreamer bodies, cutters, etc.

Defendant submits that this is not the test applied by Judge Cushman in his decision as to claims 9 and 19, and that therein he has erred. The question for him to have determined in this case was:

Considering the novelty of the changes made by Mr. Wilson from the prior art to the “pronged” or “forked” body and the interrelated “shouldered” cutters, with their function of swinging in between the forks or prongs of the body, for the purposes set forth by Mr.

Wilson, has defendant used in this sense devices which are substantially the same in this modified function and mode of operation?

Such question must necessarily be tested by and characterized by the changes which Mr. Wilson made in such body and cutters and the changes in function and interrelation produced by such changes in function, and by the new result produced by such changes.

Judge Cushman has found these Wilson changes to produce certain changes in function and mode of operation. He finds that *the function* to which the “forked” or “pronged” body contributed was “on the collapse of the cutters, to allow the cutter shank to swing in between the forks instead of the cutters swinging entirely over the lower end of the reamer body.” [Record p. 71.] Judge Cushman has explicitly found that “In this respect none of the devices of the defendant encroach upon the patent in suit.”

This finding is directly that none of the bodies of defendant’s reamer are *equivalent* to the bodies of a reamer embodying the Wilson invention, for the reason that none of them contained this function. We have already pointed out Judge Cushman’s finding that none of defendant’s underreamer cutters have the “shouldered” cutter formation or its equivalent, as distinguished from the Double formation with the notch in the shank of the cutter.

Defendant submits that Judge Cushman has definitely found that defendant’s reamer does not contain the equivalents of the elements of claim 9 or of claim 19 and should have found non-infringement.

Defendant cannot be held to have appropriated the

novel features of the Wilson invention by simply using what it used prior to such Wilson invention. The *new things* of claims 9 and 19 *as set forth therein* are the changes to the “pronged” body and the “shouldered” cutters.

While Judge Cushman has, in view of the broad novelty of the original Double invention, held in *Union Tool Co. v. Wilson & Willard Mfg. Co.* that:

“the means adopted by Wilson for collapsing, expanding and holding the cutters in reaming position, are equivalents, substantially the same as those of Double.” (237 *Fed.* 843.)

it does not necessarily follow that when judging the scope of Mr. Wilson’s patent claims the modifications and changes in construction and the consequent additional functions produced by Mr. Wilson are to be disregarded and are not to be held of the very essence of his invention or of such modified elements and of the combination or that old devices or elements (not embodying such modifications or changes and not embodying such additional or changed functions or interrelations and not producing the new results thereby sought and obtained as stated in Mr. Wilson’s patent), may be held the mechanical equivalents of such elements so modified and changed by Mr. Wilson.

While Judge Cushman in his opinion (in this case at bar) has referred to the fact that equivalency was so found in the suit on the Double patent it must also be borne in mind that his findings in such particular with respect to the changes forming the Wilson invention were that such changes were

“to permit additional features and the accomplishment of further action.” (237 Fed. 845.)

Defendant submits that to be a mechanical equivalent of the element of claim 9 or 19, i. e., the “pronged” body, the given device must “permit” and embody these “additional features” and permit the accomplishment of this further action. That this was the novelty of such changes. Clearly the “mechanical equivalent” must be such that the novel features accomplishing the further action are secured. Otherwise the substituted element does not perform substantially the same function in substantially the same manner.

Judge Cushman himself has determined what these “additional features” and “further action” are:

“The change permits the cutter shank to collapse between the prongs, which permits of more stock in the cutter shank, eliminating the notch on the inside, which is a feature of the Double cutter, above the inwardly projecting shoulder, which notch in the Double cutter is necessary to allow of the collapse of the cutter *over the lower end of the* extension, the web of which is unbroken. There is testimony that this notch constitutes a weakness in the Double cutter. (237 Fed. 845.)

“The provision for the collapse of the cutter between the prongs is the *chief additional function* accomplished by the pronged formation, etc.” (*Idem.*)

Must not the alleged infringing device, i. e., the *reamer body*, to be an equivalent of the Wilson reamer body in the combination of claims 9 and 19, therefore, be such as to substantially in the same manner pro-

duce substantially the same result, in the combination of which it is a part? If so, then no reamer body can be the equivalent of Wilson's reamer body terminating in prongs forming a fork (of claims 9 and 19) unless such reamer body permits the cutter shank to collapse between the prongs, thus permitting more stock, in the cutter shank, than could be secured when the integral web at the end of the body and the notched cutter shank of Mr. Double's preferred embodiment of his invention is used.

Must not a "mechanical equivalent" be such a device (in such an interrelation with the other devices or elements of the combination) as will produce the *novel* features and advantages of the invention?

In applying this doctrine of equivalents to the 9th and 19th claim of the Wilson patent must not *also* Judge Cushman's differentiation of the "Jones Removable Bowl Reamer" be borne in mind, so that neither of these claims be given such an interpretation as to embrace such prior device? Judge Cushman differentiates Wilson from Jones:

"The shanks of the cutters (in Jones) bore at all times against the prongs and did not collapse between them."

And the Jones cutters did not respond to Mr. Wilson's "shouldered" cutters *because* the bearing faces extended clear across the body of the cutter. These bearing faces in Jones were not separated and spaced apart at the sides of the cutter shank so that when these bearing faces passed below the ends of the prongs the shanks of the cutters would swing in between the

prongs. Yet all of defendant's reamer bodies embrace the integral web extending between the shanks of the cutters so that the shanks of the cutters bear at all times against the web and do not collapse between them, corresponding in this to the Double and the Jones prior reamers. Nor has defendant in any of its reamers provided a construction in which the elimination of the notch, referred to by Judge Cushman, is possible. *Every one of defendant's cutters have had this notch* and it was a necessity. Judge Cushman has said that the interrelation of the pronged body and the shouldered cutters is such that this notch is eliminated to permit of more stock in the cutter shank, by modifying the mode of action in collapse of the cutters, from swinging "over the lower end of the extension, the web of which is unbroken," to swinging *between the prongs*. This is the new feature of mode of operation of the Wilson invention. It is the improved mode of operation. Whether it is substantially the mode of operation of the Double invention, considered from the breadth of newness of the Double invention, is immaterial. In considering claims 9 and 19 we are necessarily confined, when testing mechanical equivalency, to the newness or novelty of the Wilson invention, for if we disregard the novelty or improved or additional function or mode of operation, we disregard the Wilson invention.

The meaning of claim 19 would seem definite and certain and not as requiring interpretation or interpolation for clearness.

"19. An underreamer comprising a body terminating in two prongs, and cutters each having

two shoulders and a bearing face on the inner side of each of the two shoulders to engage said prongs.”

The specific limitation of claim 9 to this modified mode of operation embodying this newness or novelty of the Wilson invention is equally clear. Claim 9 specifically describes the cutters as “*mounted between the prongs of said fork.*”

Claim 9 differs from claim 19, in that claim 9 does not, like claim 19, describe the cutter element of the claim in the exact words of claim 16. The limitation to the same modified mode of operation is, however, clear. Not only, as just pointed out, is claim 9 by its plain terms limited to the cutters being “mounted between the prongs of the fork,” but also to “having shoulders inside the fork and faces to bear on the projecting lugs.” The claim also specifically refers to the provision of “shoulders on the inner faces of the prongs, such shoulders providing cutter ways.” This feature was not one of novelty, except in connection with the modification of the mode of action, i. e., the swinging of the cutter shanks in between the prongs. Judge Cushman distinctly so finds. He says that the Jones Removable Bowl reamer had this feature in connection with and on the prongs of the body of that reamer:

“These forks in the removable bowl reamer also form ways for the cutters.” [Tr. Record p. 76.]

It is therefore clear that it was not these *ways* that were relied upon by Judge Cushman as the novelty of claim 9, but on the contrary this feature of the pronged

body and “shouldered” cutter construction which rendered possible and embodied the principle of the shanks of the cutters swinging in between the prongs. It is clear that it was on this differentiation that patentable novelty existed in claim 9.

This analysis of Judge Cushman’s decision justifies defendant’s assertion that infringement of claims 9 and 19 was not based upon the combinations claimed in such claims, but on something extraneous to such claims. Infringement was found in a feature not patented by Mr. Wilson. The decree rests solely upon an alleged improvement which Mr. Wilson neither described nor claimed. An alleged improvement to which he ascribed no new advantage and which was so immaterial that he did not consider it is of sufficient importance to mention in his specification. It is a feature which evidently was not considered novel or covered by the Wilson patent by either Mr. Wilson or his counsel, for they voluntarily disclaimed infringement of all claims except claims 16 and 17. This formal affirmative action after full knowledge of the alleged infringement for eight years and after they had been for years involved in litigation over this very subject matter, is entitled to great weight. This change of position by complainant and his counsel, after pleading the election in the amended bill in B-62, shows that the contention that the feature upon which Judge Cushman has based his finding of infringement, was a mere afterthought with complainant.

THE ALLEGED INFRINGEMENT UPON WHICH THE
DECREE IS BASED.

This is set forth in the opinion of Judge Cushman on pages 76-79 of the record, commencing with the next to last paragraph of page 76, and a slight further reference is made in the memorandum filed on the rehearing, last paragraph, page 84.

Defendant asserts that Judge Cushman is in error in his findings in this regard:

1st. That the feature of construction referred to by him is not embraced in the claims held to be infringed; that such claims, 9 and 19, are not addressed thereto and cannot be interpreted to cover the feature referred to by him, except by entire reconstruction and redrafting, and the elimination from each of such claims of the features of construction and mode of operation clearly made the essential principles of the respective combinations.

2nd. That if claim 9 or 19 be construed to cover such feature, by eliminating from such claim the "pronged" body and the interrelated "shouldered" cutters, the feature relied upon by Judge Cushman was not novel but had been patented in the Double patent No. 2 and had been in public use and on sale in the "Jones Removable Bowl reamers" more than two years prior to the application by Mr. Wilson for the patent in suit.

3rd. That the feature so referred to by Judge Cushman has never in fact been utilized by defendant. It has never been embodied in any of defendant's reamers.

That as so reconstructed claims 9 and 19 are not infringed.

The feature which Judge Cushman decides is an infringement is an alleged widening out of the intrust bearings on the body, against which intrust bearings the cutters bear when in reaming position.

In actual operation the "spreading-bearings" 9 of the Wilson patent are the parts which resist the forcible pushing inward of the respective cutters when in service in underreaming. The tendency of the blow to force the cutter bodily in toward the center of the well-hole is resisted by these surfaces and this portion of the impact of the blow is taken on these "spreading bearings 9." It is to be noted that instead of such bearings being *wider* than the bearings in the so-called "old style Double reamers," it is really a matter of transference of the location of such bearings. *The cross-sectional area of such bearings is not greater. On the contrary it is less.*

The transference of the location of such bearings to the extreme periphery of the body is incident to the pronged or forked construction. It was absolutely necessary to so transfer such "spreading bearings 9" to permit the cutting away of the central portion of the web to form an open mouthed or pronged reamer body.

Attention is first called, therefore, to the specification of the Wilson patent. It is to be noted that nowhere are these bearings 9 referred to as "intrust" bearings. The only reference to them is as "spreading bearings." In the Wilson patent, and in the Wilson reamer, these bearings are slightly inclined, i. e., instead of extending parallel with the longitudinal axis of the body, each

spreading bearing 9 is so formed that it extends slightly outward, away from the longitudinal axis of the body, as it progresses upward to the shoulders 10. [See Fig. 1, Record p. 977.] The Wilson specification, lines 90-91, record, page 979, says: "9 designates the spreading bearings for holding the cutters 4 apart." The paragraph inserted by amendment, at line 63, record, page 980, it will be remembered was for the purpose of securing the allowance of the claims after their rejection on the patents to Double. In this paragraph the function of these "spreading bearings 9" which is emphasized is the inclination thereof and the part such inclination plays in the movement of the cutters to expanded or underreaming position and to the separation by the "pronged" or "fork" construction of these into separated and distinct bearings so as to engage only the outer edges of the cutters "leaving an open space between the middle portions of the cutters for a greater distance than would be the case were the cutters held apart by any intermediate portion between the lugs."

Not a word is found in the Wilson specification about producing any "*wider*" or "*greater*" intrust bearings. Nor as a matter of fact is any *wider* or *greater* bearing secured. Judge Cushman seems to predicate his finding of infringement upon a "greater bearing." Record p. 78, fourth line from bottom of page.] The concluding sentence of his opinion also illustrates Judge Cushman's misinterpretation:

"The fact that defendant did not appropriate the, perhaps, relatively more important conception of

Wilson, whereby the cutter shanks were allowed to collapse between the prongs, does not excuse it, or take from the infringement it has practiced, *for the seat or bearing of the cutter-head on these faces, or lugs, is not dependent upon the swing in collapse of the cutter shanks between the prongs.*" [Record p. 79.]

Instead of claiming the invention thus carved out for Mr. Wilson by Judge Cushman, Mr. Wilson in his patent specification, in his representations to the patent office in securing the allowance of the claims, has represented that what he desired to cover was not greater or wider intrust bearings, or cutters having wider bodies, but arranging "said bearings (are) at the sides of the lower ends of the body, thus engaging the outer edges of the cutters to hold the cutters apart and leaving an open space between the middle portions of the cutters for a greater distance upward *than would be the case* were the cutters held apart by any intermediate portion between the lugs." (Specn. ll. 75-90, p. 980.) The inclusion in claims 9 and 19 of the limitation of the body to a body "terminating in prongs forming a fork" and "terminating in two prongs," respectively, thus brings out *this* special feature to a nicety, i. e., the separation of these spreading bearings 9 and their engagement with the outer edges *only* of the cutters, for the purpose just quoted from the Wilson specification. But Judge Cushman's interpretation eliminates this descriptive statement of the function of these separated bearings and ignores what Mr. Wilson has solemnly stated was *the* object and purpose of the "pronged" formation, thus separating these bearings. Judge Cush-

man's interpretation ignores the fact that defendant does not secure in any of its reamers the objects, advantages or results which Mr. Wilson has stated were sought and attained by him by thus separating and locating these bearings. It gives to claims 9 and 19 a meaning which makes such claims apply to a construction which will not secure *any* of the objects which Mr. Wilson states in his patent are the objects of his invention. It ignores Mr. Wilson's statement that he so constructs the mouth of the underreamer as to dispense with stock between the collapsed cutters, *thus enabling the cutters to close together.* (Specn. ll. 33-35, p. 979.)

This is not a mere verbal advantage. It is one which Mr. Wilson has emphasized, for he says in the specification, "This feature makes *extreme expansion* possible and makes the use of maximum amount of stock in shanks of cutters possible, thus insuring maximum strength of cutters." None of these advantages are inherent in any of defendant's reamers by reason of the widened bearings referred to by Judge Cushman. Yet all and each of these in here in the pronged construction and the use of cutters having their tilting shoulders 16 and bearing faces 4³ arranged as *separated bearings at the outer edges of the cutters*, as definitely set forth in both claim 9 and claim 19, and as set forth in the argument advanced to the patent office before the allowance of the claims. [Record pp. 1047 and 1053.] In these arguments Mr. Wilson criticises the patent office examiner saying: "The Double patent (748,054) does not cover on the reamer terminating in prongs forming a fork. He apparently quite overlooks the difference in the construction of the two reamers."

After having his original claims 16 and 17 [Record p. 1040] rejected on the Double patents, Mr. Wilson redrafted such claims, and in the redrafted claims emphasized this feature of the separation of the bearing surfaces 4³ and their location at the outer edges of the cutter, as follows:

“The Double cutter has its bearing face entirely across the cutter instead of on the inner side of the shoulders at the sides of the shank.”

The words of description of this separation of these bearing faces and of these shoulders as adopted for the new claims 16 and 17 was the same as that used in the additional claims 19 and 20 inserted in connection with this last quoted argument. [Record p. 1053.]

How can a claim thus specifically calling for the combination of the forked body terminating in prongs and for the “shouldered” cutters be construed to be a claim merely upon *any* formation of reamer body and *any* form of cutters, in which the joint relation of these parts does *not* employ a single one of the advantages claimed for the elements of the combination or for the combination, as defined by the inventor? Can such a claim be revamped by the court so as to be a claim for “the seat or bearing” formed by “entirely shearing away the side web of the extension” [Record p. 79] regardless of whether such construction is the mechanical equivalent of the several elements of the claim, *and* regardless of whether such construction secures a single one of the advantages or results sought or obtained by the inventor, which he has stated in his patent are the objects to be attained by his invention?

Such action would not be applying the doctrine of equivalency. It would on the contrary be reading out of the claim the very essence of the combination as claimed by Mr. Wilson and be addressing the claim to another subject matter. The words of the Supreme Court in *White v. Dunbar* (119 U. S. 47) apply:

“It is unjust to the public, as well as an evasion of the law, to construe it in a manner different from the plain import of its terms.”

All the decisions inhibit the court from twisting the claim about “so as to make it include something more than, or something different from, what its words express.” (*White v. Dunbar, supra.*)

See also:

- Brown v. Stilwell & Bierce Co., 57 Fed. 731, 739;
- Harris v. Alle, 15 Fed. 106;
- Klein v. Russell, 19 Wall. 433;
- Smith v. Putnam, 45 Fed. 202.

As said by the Circuit Court of Appeals in *Buffington's Iron Building Co. v. Eustis*, 65 Fed. 804:

“The purpose of a claim in a patent is to notify the public of the extent of the monopoly secured to the inventor, and while it is notice of his exclusive privileges, it is no less an estoppel of the patentee to claim under the patent any combination or improvement he has not therein distinctly claimed as his invention.”

As said by Judge Bean in *Denny Renton Clay & Coal Co. v. Portland Cement Pipe Co.*, 232 Fed. 890, at page 894:

“Having come to this conclusion, what is the legal effect of such finding? It is the province of a patentee to make his own claim, and his privilege to restrict it, and, as said by Mr. Justice Blatchford in *Fay v. Cordesman*, 109 U. S. 408, 421, 3 Sup. Ct. 236, 244 (27 L. Ed. 979):

‘If it be a claim to a combination, and be restricted to specified elements, all must be regarded as material, leaving open only the question whether an omitted part is supplied by an equivalent device or instrumentality.’

“Stated another way:

‘In patents for a combination, if the patentee specifies any element as entering into the combination, either directly by the language of the claim or by such a reference to the descriptive part of the specification as carries such element into the claim, he makes such element material to the combination, and the court cannot declare it to be immaterial.’ *Electric Protection Co. v. American Bank Protection Co.*, 184 Fed. 916, 922, 107 C. C. A. 238, 244.

“The latter authority announces also this principle:

‘When the patent is for described means or mechanism to accomplish a specified improvement, it will be limited to the particular means described in the specification, or their clear mechanical equivalents.’

“Still another principle seems to be well established in patent law:

‘That, as the inventor is required to enumerate the elements of his claim, no one is an infringer of a combination claim unless he uses all the elements thereof.’ *Cimiotti Unhairing Co. v. Am.*

Fur. Ref. Co., 198 U. S. 399, 410, 25 Sup. Ct. 697, 702 (49 L. Ed. 1100).

“See also *Boyd v. Janesville Hay Tool Co.*, 158 U. S. 260, 267, 15 Sup. Ct. 837, 39 L. Ed. 973.

“It follows, therefore, if any essential element of the combination is omitted from the alleged infringing device, without substituting therefor its clear mechanical equivalent, the charge of infringement is not sustained. *Acme Truck & Tool Co. v. Meredith*, 183 Fed. 124, 127, 105 C. C. A. 414; *Union Match Co. v. Diamond Match Co.*, 162 Fed. 148, 155, 156, 89 C. C. A. 172; *Brown v. Stilwell & Bierce Manuf'g Co.*, 57 Fed. 731, 6 C. C. A. 528.”

Judge Cushman directly finds that defendant's reamers omit not simply *one* of the elements specified in claims 9 and 19, but *both* elements as specified therein. He admits that defendant's reamer neither have (1) the body terminating in prongs *nor* (2) the “shouldered” cutters.

“The omission of an essential element in a specific claim, without substitution of an equivalent, avoids infringement.”

Blake v. San Francisco, 113 U. S. 679;

Voss v. Fisher, 113 U. S. 213;

Yale Co. v. Sargent, 117 U. S. 373;

Kinzel v. Luttrell, 67 Fed. 926.

This court, in *Hardison v. Brinkman*, 156 Fed. 962, held that the claims of the Hardison patents were not infringed for the reason that by the words of the claims each was “explicitly limited to the use of a friction device which at all times bears upon the interior of the well casing,” etc., and says:

“A mechanical equivalent which may be substituted for an omitted mechanical element in a combination claim is one that performs *the same function* by applying the same force to the same object through the same means and mode of application.”

Applying this rule to claims 9 and 19, the court must find some device in the defendant's reamers which has the same function as the forked or pronged construction *in its combination with* the “shouldered” cutters, and some device which has the same function as the “shouldered” cutters, with their bearing faces arranged at the outer edge of the cutter and on the inner side of each of the shoulders of the cutter. Inasmuch as the court below has correctly found the mechanical fact to be that such function of the forked or pronged construction does not exist in any of defendant's reamers it follows that defendant's reamers have no mechanical equivalent of this claimed element. Inasmuch also as the court below has correctly found that the cutter of defendant's reamer does not have the separated shoulders and bearing faces at the outer sides of the cutter shank or the function of such separated shoulders 16 and bearings 4”, it follows that defendant's reamers cannot possess the mechanical equivalent of such element of claims 9 and 19.

“Anything which does not possess this function and this action, no matter to what extent in other particulars it may answer its cause, does not infringe.”

Eppler v. Campbell, 86 Fed. 141.

See also:

H. F. Brammer Co. v. Witte Co., 159 Fed. 726,
728;

Brooks v. Fiske, 15 How. 212;

Stimson v. Railroad Co., 10 How. 329;

Adam v. Folger, 120 Fed. 260.

As said by Judge Morrow in American Can Co. v. Hickmott Asparagus Canning Co., 137 Fed. 86, 87-88:

“In a patented combination, a device in one mechanism, to be the equivalent of a device in another, must perform the same function (Rowell v. Lindsay, 113 U. S. 97, 103) and perform that function in substantially the same manner as the thing to which it is alleged to be an equivalent. Walker on Patents, section 354.”

Judge Cushman says:

“The forked formation of complainant’s reamer body *was essential to the complete collapse of the cutters*; but it was not essential to the co-action in the particular in which infringement is found. The fact that, in describing, in the claims, a member of a machine which performs two functions in such a way as to disclose a feature of its fitness to perform one function, *which feature is not essential to the discharge of its other function*, does not warrant competitors in dropping such feature and thereby appropriate one-half of the invention and its advantage, nor prevent the court from according the patentee such a range of equivalents as will fairly protect him in the substantial merits of his invention. If so, form becomes everything and substance nothing.” [Record p. 84.]

In this statement Judge Cushman directly admits all of defendant's argument that the wording of claims 9 and 19 *directly and positively* sets forth and describes the function of the interrelation and conjoint action of the forked or pronged body and of the shouldered cutters to secure the very advantages (hereinbefore pointed out) claimed for such combination in the specification of the Wilson patent. Yet he says the court *may ignore* such limitations *and read out of the claim* the limitations to such constructions and conjoint action of the elements as are specifically described in the claim and are required to perform the specific function asserted for them by the patentee, and revise the claim to cover an association of elements *which totally omits such constructions of the elements and their conjoint action, with the resultant new function*, and may twist the claim (like a nose of wax) so as to cover only some other advantage not requiring either the construction or the particular conjoint action or interrelation of the elements as specified in the claim, and this for the avowed purpose of reconstructing such claim so as to cover something different which His Honor thinks the patentee *might have claimed but did not*.

Defendant submits that it is a fair and truthful summary of Judge Cushman's opinion to say that His Honor freely and frankly admits that both claims 9 and 19 specifically call for the "pronged" construction of body and for the "shouldered" cutters and for the conjoint action of these to secure greater strength in the cutter shanks, to secure the complete collapse of the cutters, to secure greater expansion of the cutters,

to leave a maximum open space between the cutter, to receive the loose material or sludge during the drilling operation,—to secure all the objects and advantages set forth and described by Mr. Wilson in his patent, and that he admits that defendant has “dropped such feature” entirely and has never used such combination in any of its reamers.

Defendant submits that it is a fair and truthful analysis of Judge Cushman’s opinion to say that he has utterly ignored the plain context and import of each of claims 9 and 19 and has twisted each of them to call for *only* that feature which he has deduced to be an important feature of the Wilson reamer, *but a feature to which neither claim 9 nor claim 19 was addressed*. That as thus *revised* by Judge Cushman the 9th and 19th claims have an entirely different meaning and legal effect from that which their plain, concise and unambiguous terms assert and “distinctly point out” as required by section 4888 of the Revised Statutes. This is not interpretation. It is total revision. Total reconstruction. It is not judging the meaning of the contract by its clear terms.

Defendant submits that Judge Cushman falls into error in stating that otherwise “*form becomes everything and substance nothing.*” He is evidently referring to changes in the form of the elements, and particularly to Mr. Wilson’s change *from the integral web across the bottom of the reamer to the pronged formation*. But that was Wilson’s conception and upon that and the conjoint action of his “shouldered” cutters Mr. Wilson founded his invention. *It was Mr.*

Wilson's change from the Double inventions. It was all that was novel over the Jones reamer.

As said by the Circuit Court of Appeals for the Eighth Circuit in *O. H. Jewell Filter Co. v. Jackson*, 140 Fed. 340, 346:

“But the rule that changes of form do not avoid infringement has at least two exceptions—when the form of the mechanical element is the distinguishing feature or characteristic of the invention, and when the change in the form of the element changes the principle or mode of operation of the combination.”

Here form was the distinguishing feature characteristic of the invention and Mr. Wilson made certain detail changes in the mode of operation by *changing the form of the reamer body* to a “forked” or “pronged” construction, and by *changing the form* of the cutters to the “shouldered” cutters, each with the tilting shoulders 16 and bearing faces 4³ arranged at the outer edges of the cutter, separated from each other for the very purposes described by Mr. Wilson in his patent. This is the expressed novelty of the claims 9 and 19. These produce the advantages described by Mr. Wilson. When defendant retains the old form of body and the old form of cutters, and does not secure this changed mode of operation thus produced by Mr. Wilson—then upon the issue of infringement “form” becomes of the essence of the inquiry.

Mr. Wilson changed the form of the body to the “forked” or “pronged” construction and changed the form of the cutters by transferring the tilting shoulders

16 and bearing surfaces 4³ to the outer side of the cutters in order to secure the change in mode of operation and secure the new results sought by him. By these changes in form he alleges in his specification that he secures certain advantages. These changes marked his departure from the old reamer bodies and the old cutters. As said by Mr. Walker in his work on Patents, section 363, page 316 (4th Ed.):

“A change of form does not avoid an infringement of a patent, *unless the form shown in the patent is necessary to the functions which the patent ascribes to the invention* (Long v. Pope Mfg. Co., 75 F. R. 839), *or unless that form is the distinguishing characteristic of the invention* (National Hollow Brake-Beam Co. v. Interchangeable Brake-Beam Co., 106 F. R. 711; Ide v. Trorlicht, Duncker & Renard Carpet Co., 115 F. R. 149; Dowagiac Mfg. Co. v. Superior Drill Co., 115 F. R. 904), *or is essential to its patentability* (Adam v. Folger, 120 F. R. 263), *or unless the patentee specifies a particular form as the means by which the effect of the invention is produced* (O'Reilly v. Morse, 15 Howard 123; Ewart Mfg. Co. v. Iron Co., 31 F. R. 150; Pacific Cable Ry. Co. v. Butte City Ry. Co., 55 F. R. 763), or otherwise confines himself to a particular form of what he describes (Pope Mfg. Co. v. Mfg. Co., 34 F. R. 890; Union Steam Pump Co. v. Battle Creek Steam Pump Co., 104 F. R. 342).”

Defendant submits that the subject matter of claims 9 and 19 of the Wilson invention falls within each and every one of these exceptions:

1. The form called for by these claims is necessary

to the functions which the patent ascribes to the invention. Judge Cushman has so found.

2. The form of reamer body and the form of the cutters as called for or described in these claims is *the distinguishing characteristic* of the Wilson invention differentiating the combination of these claims from the Double patent No. 2 and from the Jones Removable Bowl Reamer.

3. The limitations to the forms expressed in these claims are essential to their patentability. To their novelty over the Double patent No. 2 or over the Jones Removable Bowl Reamer.

4. These claims specify these particular forms of body and of cutters as the means by which the new results described in the patent are to be secured. The patent is to be construed as a whole. It is one contract. These claims are to be construed in the light of the claimed advantages and of the objects which Mr. Wilson *states in his patent* he has sought and accomplished.

Yet neither of these forms as specified in these claims are *essential* to the second function referred to by Judge Cushman. There is no pretense even that defendant has utilized either of these forms in any of its reamers.

“It is well settled that, in order to constitute the infringement of a combination, it must appear that the alleged infringing device included every element of the combination as claimed. It is immaterial that the elements claimed in the patent of

plaintiff and omitted in the defendant's device are not of the essence of the real invention."

Kinzel v Luttrell, 67 Fed. 926.

See also:

Electric Co. v. Hall, 114 U. S. 87;

Gage v. Herring, 107 U. S. 640;

Water Co. v. Desper, 101 U. S. 332;

Dunbar v. Meyers, 94 U. S. 187;

Reedy v. Scott, 23 Wall. 352.

"But the appellant is met here by the unquestioned rule that the absence from a device or construction, that is alleged to infringe, of a single essential element of a patentable combination of old elements, is fatal to the claim of infringement."

Murphy v. Excelsior, 76 Fed. 965.

Judge Cushman has directly recognized the fact that the terms of claims 9 and 19 are specific to the forked or pronged formation and to the shouldered cutter formation so as to disclose the peculiar and specific formation of the conjoint action of these two forms, for he says:

"The fact that, in describing, in the claims, a member of a machine which performs two functions in such a way as to disclose a feature of its fitness to perform one function." [Record p. 84.]

He does not assert that the second function to which he refers has been in any manner particularly or even directly referred to or included in either claim 9 or 19. This fact, taken in consideration with the fact that the second function to which he refers is not set forth or described in any manner in the Wilson specification,

shows to what an extreme extent Judge Cushman has gone in his reconstruction of these two claims, and how totally he has ignored their plain import and meaning and eliminated from them their concise specification of the function and conjoint action which does accomplish the very objects which Mr. Wilson states in his patent were what he sought to and did accomplish.

Judge Cushman has definitely found that so far as claims 9 and 19 are concerned there is nothing included in these claims which has been embodied in any of defendant's reamers except—

“entirely shearing away the side web of the extension to form a lug, the bearing faces to accommodate the wider cutter-head” [Record p. 79], which is the *second* function referred to by him in his memorandum on rehearing. [Record p. 84.]

Judge Cushman has also found that eliminating from consideration this distinguishing function (of permitting the collapse of the cutters between the prongs to thereby secure the several advantages and allegedly new result heretofore referred to), secured by Mr. Wilson by the “pronged” form of body and the “shouldered” cutter formation, there is nothing new or novel in claims 9 or 19 *unless by his reconstruction and revision* of such claims, such claims are held to cover this feature of the widened inthrust bearing. This is the true meaning, doubtless, of the following paragraph of Judge Cushman's opinion appearing on record page 76:

“Passing to claims 9 and 19, it has already been found that, as ways for the cutters to slide, or

ride on, *the faces of the prongs and lugs were no more than equivalents of the ways found in the Double invention*; but, insofar as these prongs or lug-faces afforded bearings for the cutter when in reaming position is concerned, a different question is presented, and this is the feature covered by claims 9 and 19.”

It follows as a matter of law that if “the faces of the prongs and lugs *were no more than equivalents of the ways found in the Double invention*,” then no patentable novelty or patentable invention existed in claims 9 and 19, for to merely substitute equivalents is not invention. On the contrary it is mere mechanical skill.

It follows also that what would infringe if later, anticipates if prior.

So we find from every analysis of Judge Cushman’s opinion and decision that the only finding of infringement rests wholly and solely upon the alleged wider intrust bearings to which Judge Cushman averts.

This is set forth in the following paragraph [Record p. 77]:

“In the patent in suit, the lower portion of the outer web is cut away, giving the cutter less lateral and greater intrust bearings. *The lugs on either side are thereby created*. The outer face of these lugs form bearings for the inner shoulder on the cutters. This formation enables the maker—because of the removal of the side web—to give the cutters a wider inner face *and inner bearings at the outer side of the inner face of the cutter*.”

The “lugs,” referred to by Judge Cushman as present in the Wilson reamer, are the lower end portions of

the forks formed by the prongs. These different words of description thus applied to different portions of the same pronged formation require careful scrutiny not to be misunderstood. The Wilson specification says that the body 1 terminates in prongs 2, forming a fork.

“Said prongs are provided with and terminate in downwardly projecting lugs 2' to spread the cutters apart.” [Record p. 979, lines 64-70.]

With the exception of reference to “the spreading bearings 9 on the lugs 2'” the specification makes no other description of these lugs. What portions of the end of the prongs or of the forks formed by the prongs are to be denominated or termed or considered “lugs” is not clear from the specification. The specification, however, does say that the “spreading bearings 9 are on the lugs 2'” and does say that these spreading bearings constitute wedges for wedging the cutters apart. [Record p. 980, lines 73 to 75.] On the same page of the Wilson specification, line 46, it is stated:

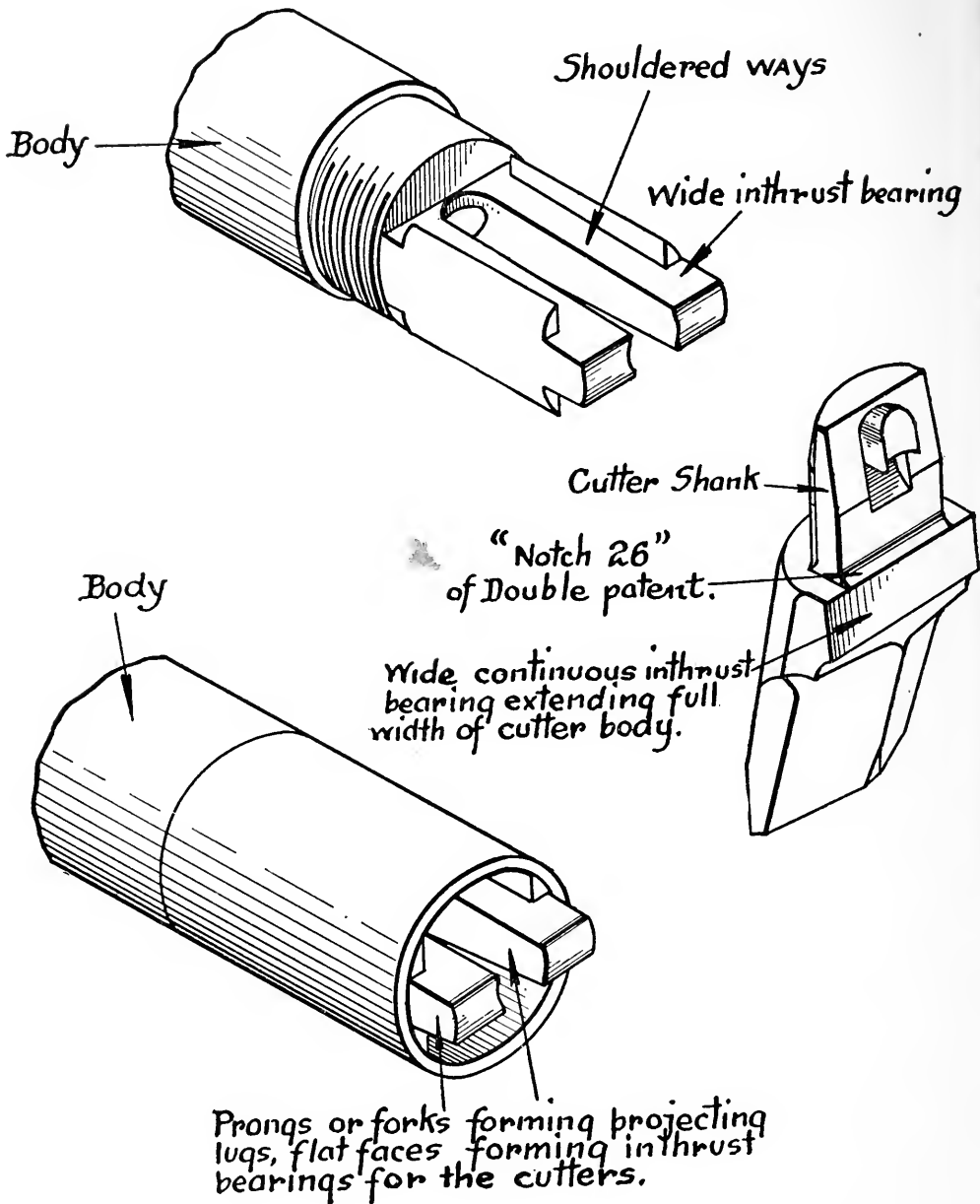
“The spreading bearings 9 of the lugs 2' engage the expansion bearing faces 4³ of the cutters.”

With this description and with the drawings of the Wilson patent before us, the most definiteness that we can attach to the term “lugs” is that they are the lower end portions of the forks or prongs. Inasmuch as there is a tine of a fork at each side (in other words two separated prongs), the lugs must be considered the lower portions of these tines or prongs.

Judge Cushman in finding infringement has definitely



"Jones Removable Bowl Reamer."



stated that this pronged formation and its interrelation to the shouldered cutters must be disregarded. He finds that none of defendant's reamers embody such construction or interrelation (which necessarily includes the collapsing of the shanks of the cutters in between the ends of the lugs or prongs, as illustrated in Fig. 1 of the drawings of the Wilson patent). Disregarding this collapsing of the shanks of the cutters in between the lugs or prongs, that is to say, their occupying the space between the separated lugs or prongs, we find absolute correspondence then between the lugs or prongs of the "Jones Removable Bowl Reamer Body" and this structure so considered. In the Jones Removable Bowl Reamer the forks or prongs are shouldered and also form ways for the cutters having the same functions as the ways 3 of the Wilson patent. Not only is this true mechanically, but this is one of the findings of fact by Judge Cushman. [See Record p. 77.]

Opposite this page is inserted a drawing truly showing the formation of the body of this "Jones Removable Bowl Reamer" and showing the formation of the bearing face of the Jones cutter. Unquestionably the bearing face of this cutter is wider than the bearing face of any of the cutters of defendant's reamers and undoubtedly the intrust bearings on the prongs of this Jones reamer body are wider than any of the intrust bearings of either or any of defendant's reamers or *of the Wilson reamer*. It is conclusively shown, therefore, that prior to the date of Mr. Wilson's alleged invention and more than two

years prior to the date of filing of his application for the patent in suit, the very feature (so far as it applies to any of defendant's reamers) found to be an infringement of claims 9 and 19 by Judge Cushman was well known. That Mr. Wilson was not the original, first or sole inventor thereof, and that the same was totally lacking in novelty when Mr. Wilson made his first reamer.

The extreme end surfaces of the prongs or lugs of the forked body of this Jones reamer are the surfaces which cause the expansion of the bits by contact of the shoulders just above the bearing surfaces of the bits with these end surfaces. The shoulders last referred to are the equivalent of the notch 26 (Fig. XI) of the first Double patent, "Defendant's Exhibit Double Patent No. 1," and this is the notch referred to by Judge Cushman on page 77 of the record as weakening to some extent the cutter, and the notch to which he has referred in his opinion in 237 Fed., page 845, when he said that Wilson's change of form to pronged or forked formation of reamer body

"permits the cutter shank to collapse between the prongs, *which permits of more stock in the cutter shank, eliminating the notch on the inside, which is a feature of the Double cutter, above the inwardly projecting shoulder, which notch in the Double cutter is necessary to allow of the collapse of the cutter over the lower end of the extension, the web of which is unbroken.* There is testimony to the effect that this notch *constitutes a weakness in the Double cutter.*"

(It must be borne in mind at all times that all of defendant's cutters have embodied this notch. This is true of all of the reamers, "Double Improved," Type "D" and "E" and "F.")

The outer faces of these prongs or lugs of the Jones body are each of much greater width and of greater area than the outer faces of the lugs of the Wilson reamer. The construction of the Jones reamer body certainly gives the cutters "a wider inner face and inner bearings at the outer side of the inner face of the cutter" (Judge Cushman's opinion, p. 77) than does the Wilson construction.

However, it is to be noted of this Jones reamer that the bearing face of the cutters is *one continuous bearing face across the full width of the cutter*, corresponding exactly in this respect to the bearing faces of the cutters of all of defendant's reamers. The Jones cutters do not have "two shoulders and a bearing face on the inner side of each of the two shoulders" (claims 16 and 19). Consequently it cannot be said that the Jones cutters have the *separated* tilting shoulders 16 and a bearing face 4³ on the inner side of each of the shoulders which are arranged at the outer edges of the cutter only, as in the Wilson patent and reamer. Therefore, Judge Cushman's description [Record p. 77] of the combination between the bearings on the lugs or forks and the "inner bearings *at the outer side of the inner face of the cutter*" as applied to the Wilson construction does not apply to this Jones cutter, nor does it apply to any of defendant's cutters.

Judge Cushman attempts to differentiate the bearing at the end of the prongs of the "Jones Removable Bowl Reamer" from the "spreading bearings 9" formed on the lugs 2' of the Wilson reamer. He says:

"The bearing at the end of the prongs afforded the inner face of the cutter-head in the removable bowl reamer does not anticipate the bearing afforded by the 'lug' face of the patent in suit, for, in the removable bowl reamer, *the bearing afforded is considerably less across than the diameter of the extension of the reamer body, or bowl.*" [Record p. 76.]

It will be noted that the prongs of the said Jones reamer do not extend quite to the periphery of the body. They lack the quarter inch on each side which corresponds to the removable ring or sleeve. However, they do extend clear to the extreme edges of the body at the bottom and the bearing faces of the Jones cutters extend clear to the extreme edges of the bearing faces on the prongs so that as a matter of actual fact the bearing faces of the Jones reamer will actually measure *broader* than the bearing faces 9 of a Wilson reamer. Measurements of the actual exhibit "Fred W. Jones Reamer No. 1" (the Jones Removable Bowl Reamer) and measurement of the same sized Wilson reamer proves this absolutely. We shall see that *in this respect* in which Judge Cushman criticises this Jones reamer and apparently thereby determines it not to afford the wider or widened intrust bearing referred to by him, *defendant's reamers correspond absolutely with the Jones Removable Bowl Reamer*, and that the intrust bearing or face of any one of de-

fendant's cutters does not bear on the inthrust bearing of defendant's reamers to near as close a point to the edge as does this Jones reamer. It is therefore seen that if the Jones reamer is differentiated from the Wilson reamer on the ground that the bearing afforded is considerably less than the diameter of the extension of the body, or bowl, *then the same distinction is true of each one and every one of defendant's reamers.* Again, the rule applies that that which would not anticipate if earlier will not infringe if later. Again we see demonstrated beyond peradventure of doubt that the differentiating feature pointed out by Judge Cushman between the bearing referred to in the Jones reamer and the bearing referred to by him in the Wilson reamer is absent from each and all of the defendant's reamers and absent in the same sense and degree that it is in the Jones reamer.

Judge Cushman in discussing these bearings on the lugs and their relation to his charge of infringement, says:

“The bearings on the ‘lugs’ thus afforded—being in the direction of the extension of the enclosing web—necessarily make a stronger formation than the bearing confined, as in the original Double design, to the slotted intersecting cross web. The broader cutter-head and broader bearing furnished by the device of the patent in suit, obviously tend to lessen any tendency of the cutters to twist in operating and there is testimony in the cause, which I am inclined to credit, that, with the narrower Double cutter, the work of the reamer is more likely to result, under certain recurring conditions, in what is termed ‘key-holing,’

that is, in the cutters which are hung opposite to each other, each getting started to cut downward in the same place and not reaming uniformly around the hole.”

If the bearings on the “lugs” referred to by Judge Cushman “necessarily make a stronger formation” than in the device as illustrated in the first Double patent, still we have the same stronger formation in the pronged construction of the Jones reamer. In the Jones reamer we have even a broader cutter-head and broader bearing than in the Wilson. So it is apparent that Judge Cushman did not bear in mind the true legal effect of the Jones reamer as limiting the possible novelty in the Wilson invention.

If the broader cutter-head and broader bearing thus referred to by Judge Cushman as existing in the Wilson forked or pronged construction “tend to lessen any tendency of the cutter to twist in operating” then the broader cutter-head and the broader bearing of the Jones reamer accomplishes the same identical result and function. So that each of the observations of Judge Cushman last quoted apply with equal force to the Jones Removable Bowl Reamer and do not distinguish the Wilson invention therefrom.

Clearly defendant had an absolute right to use the Jones invention. It had an absolute right to modify its reamers to embody these features of the Jones reamer. While Mr. Fred W. Jones applied for a patent on this removable bowl reamer on December 23rd, 1901, the same became public property on December 18th, 1904, by the abandonment by Mr. Jones of his

application by failure to prosecute the same in the patent office as required by law. [Record pp. 1077-1097.] Mr. Jones' original application having become abandoned, he could not after 1904 have made a new application as the two years' prior use provision of the statute had barred another application. It was therefore public property and upon its becoming public property the Double reamers were modified as shown by the "Double Improved" and Types "D" and "E." It was from the Jones Removable Bowl Reamer and not from the Wilson that the information for the changes was derived. It was not Mr. Wilson's invention but the abandoned invention of Mr. Jones, which Mr. Jones dedicated to the public that was utilized by the defendant (if the court can find that defendant did in fact use either). In reality defendant has used the improvement of the Double patent number 2, number 748,054, and the bearings referred to by Judge Cushman are as wide therein as in the "Double Improved," or Type "D" or Type "E" or Type "F" reamers.

The shouldered ways of the Jones Removable Bowl Reamer will prevent twisting of the cutters in the same manner as the shouldered ways 3 of the Wilson patent. The broad intrust bearing on the Jones cutter contacting on the even broader intrust bearings on the Jones prongs or forks prevent any tendency of the cutter to rock to an even greater degree than do the forked or pronged construction of body and the separated shoulders 16 and bearing faces 4" of the Wilson patent.

It is thus seen that the Jones Removable Bowl Reamer is a complete and full anticipation of the fea-

ture referred to by Judge Cushman and upon which he has based his finding of infringement.

It needs no argument to demonstrate that the claims of the subsequent Wilson patent are not entitled to such a construction as will embrace within them the features of the Jones Removable Bowl Reamer.

It is believed that Judge Cushman would not have fallen into this error of finding novelty in the broadened bearings referred to by him, if he had not overlooked the full significance of the prior Jones reamer.

Bearing in mind that Judge Cushman concludes his opinion by stating that “the seat or bearing of the cutter-head on these faces, or lugs, is not dependent upon the swing in collapse of the cutter-shanks between the prongs” [Record p. 79], the full and complete anticipation by the Jones reamer is self-evident.

What reason Judge Cushman had for referring [Record p. 75] to the fact that “only a very few machines of this design (‘Jones Removable Bowl Reamer’) were ever made” is not apparent, unless he discounted the legal effect of such Jones reamer as an anticipation for such reason. There were 10 or 12 of them made. [Record p. 785.] Some were sold in 1902 and 1903; others were rented.

The record shows that this Jones reamer was suppressed by the owners of the Double patent No. 1 as an infringement thereof. [See testimony of Mrs. Olive E. Jones, Q. 20-21, p. 866; George L. Skinner, Q. 35, p. 887; XQ. 50-51, p. 890; XQ. 68, p. 895; RDQ. 82, p. 898.]

The public use at a date two years or more prior to the date of Mr. Wilson’s application for patent (or

any time prior to Mr. Wilson's making his alleged invention) of *one* successful Jones reamer renders it just as much a bar to Mr. Wilson's claim for a patent on any combination or construction utilized therein as though a million were used. So also a single sale has just as much legal effect as an anticipation as the sale of hundreds.

This is so well settled as to need no citation of authorities.

Whether Judge Cushman minimized the effect to be given to this Jones Removable Bowl Reamer as a part of the art prior to Mr. Wilson's invention upon some erroneous consideration reflected in this one observation: "Only a very few machines of this design ever made," is not absolutely clear. But it is absolutely certain that he did fail to give this Jones reamer the full effect legally due to it as limiting the possible novelty of Mr. Wilson's claimed invention.

In view of this Jones reamer the 9th and 19th claims must be narrowly construed. As reconstructed and revamped by Judge Cushman they clearly cover the Jones reamer and are rendered void as wholly anticipated thereby.

If on the other hand, claims 9 and 19 are construed, in accord with their plain terms, to include the pronged or forked construction of body in its specific interrelation to the "shouldered" cutters of the Wilson reamer, such cutters having their tilting shoulders 16 and in-thrust bearings 4³ separated and arranged at the outer edges of the cutters with the uncut shank projecting inward of and between these shoulders 16 and bearings 4³, so that the cutters in collapse swing in between the

prongs or forks, thus securing the novel results set forth in the Wilson patent specification, then this "Jones Removable Bowl Reamer" does not anticipate these claims. Nor does any of defendant's reamers infringe.

It is submitted that this is the true intent of these claims and the only construction which can be placed thereon without doing violence to their plain terms, and the only construction which can be placed upon them and still maintain their validity.

On pages 1004-1009 of the record appears the patent to O'Donnell & Willard, issued June 14, 1904. This patent was issued prior to the date Mr. Wilson claimed to have conceived the invention set forth in the patent in suit. An underreamer is in evidence as "O'Donnell & Willard Underreamer" which shows the same cutters as this O'Donnell & Willard reamer. Both Elihu C. Wilson, the complainant herein, and his brother and expert witness, William W. Wilson, have testified this was a successful, practical device. As this is the sworn testimony of the complainant, in this case he should be bound thereby. If he is, *then* such O'Donnell & Willard patent and reamer each clearly anticipate the feature upon which Judge Cushman predicates his finding of infringement. It is true that upon other testimony (*which is not in this case*) this defendant and its co-owners of the Double patents have asserted and contended that such O'Donnell & Willard patent is a mere paper conception which, when attempt was made to use a machine substantially like the patent, was proven practically inoperative and valueless—and which

was in fact abandoned as inoperative and valueless by Messrs. O'Donnell and Willard.

As said before Mr. Elihu C. Wilson's testimony was an effort to testify to this O'Donnell & Willard reamer being a fully successful tool. Can he complain if in this suit his testimony is taken at 100%? *Is he not stopped in this case from asserting to the contrary? Is he not bound by his own testimony?*

If so, the cutter-heads of the O'Donnell & Willard are wider than those of the Wilson. The "broader bearing," referred to by Judge Cushman in the last paragraph of page 77, is shown more completely in this O'Donnell & Willard patent than in the Wilson. Each statement of such paragraph applies better to O'Donnell & Willard than to Wilson. E. C. Wilson had full knowledge of this O'Donnell & Willard reamer prior to his invention.

Shall we believe the complainant Mr. Elihu C. Wilson, when testifying to save himself from the charge of infringement? *That's the question.* [See Record Q. 283-285, p. 207; also Record pp. 214-222.]

There remains one very important part of Judge Cushman's opinion to be considered. It shows most conclusively the very narrow limits of the infringement found by him.

Judge Cushman says:

"In the earlier Double devices there were secondary dovetails adjacent to the junction of the cutter-head and shanks, with corresponding ways in the inner faces of the extension, forming the recess in which the cutter is mounted on the body."

[Record, last two lines p. 78, *et seq.*]

These secondary dovetails are numbered "10" in Figs. V and VI [Record p. 983] of the drawings of the Double patent No. 2, which was the principal reference cited by the patent office against Mr. Wilson's application for the patent in suit. The "corresponding ways," referred to by Judge Cushman, are the "grooves 15," shown in Figs. III and IV. Reference to the mechanical exhibits shows these dovetails, for example,—in the Type "F" reamer and in the Type "D" reamer. The cuts reproduced from pages 28 and 29 of defendant's catalog [Record pp. 1099 and 1100] show the parts of these reamers separately. The presence of these "secondary dovetails" is clearly shown in both reamers, also the presence of these "corresponding ways."

What Judge Cushman's finding means is that these same "secondary dovetails" and their "corresponding ways" have been utilized in the Double reamers *since 1902* and have never been abandoned. Otherwise Judge Cushman's statement is shown to be erroneous. The more important part of Judge Cushman's statement follows:

"These added ways caused *an outward flare* at the mouth of the recess, or pocket. *As these ways were made deeper and the flare increased, a wider bearing would be given an opportunity for a wider cutter to bear upon it.*"

Judge Cushman thus recognizes that the *widened* intrust bearing on the body and the *widened* intrust bearing of the cutter utilized by defendant,—for example, in said Type "D" and "F" reamers,—*actually*

existed in these earlier Double reamers and is the subject of the Double patent No. 2. [Patent 748,054, Record pp. 982-987.] The widened intrust bearing of the cutter is the inner face of the cutter, including the face of the integral "secondary dovetails" 10 [Fig. VI, p. 983], just below the "notch" at the lower end of the cutter shank. This same widened cutter bearing appears in the cutter (numbered 12) of the cuts on page 1099 and cutter (numbered 202) on page 1100 of the record and is formed wider by reason of the "secondary" dovetails there shown. The widened intrust bearing on the reamer body (against which the intrust cutter bearing bears) is the face of the integral web at the lower end of the body. This face extends practically clear across the end of the body, as shown best in Fig. III [p. 983]. The showing of this drawing (Fig. III) differs from the cuts of the bodies on pages 1099 and 1100, in this respect, solely and only in that a portion of the metal which lies above and has been undercut to form the secondary or "corresponding" ways (for the secondary dovetails) has been cut away in Types "D" and "F." This is due to a change in the process of machining. As recognized by Judge Cushman "as these ways were made deeper and the flare increased a wider bearing would be give(n) (produced) an(d) opportunity for (a) wider faced cutter to bear upon it." Clearly the width of the bearing on the body and the width of the bearing on the cutter would be made to correspond and these widths would depend solely upon the selection of widths by the designer. This would be mere workshop practice. Increasing in this manner these bearings could not rise

to the dignity of invention. This is the real import of Judge Cushman's quoted statement. But there has in fact been no increase in width of these bearings from the showing of Double patent No. 2 or any increase in the width of the inthrust bearing on the body, in either the "Double Improved" or Types "D," "E" or "F" reamers.

A mere change of form without any change of function or change in mode of action is not invention.

Walker on Pats. (5th Ed.), Sec. 41, p. 58;

J. J. Warner Co. v. Rosenblatt, 80 Fed. 542;

National Harrow Co. v. Wescott, 84 Fed. 670;

Dalton & Jennings, 93 U. S. 271;

Mosler v. Mosler, 127 U. S. 354;

Belding v. Challenge Co., 152 U. S. 100.

"Our conclusion is that the absolute length and size of the valve opening was a matter of judgment, in view of the state of the art shown, and that there was no invention in making its length and size greater or less in a reed board of a given width, or when the reed board was made wider or narrower or had more or less sets of reeds in it, either full or partial."

Esty v. Burdett, 109 U. S. 633.

See further :

Benjamin v. Chambers, 59 Fed. 151;

Eames v. Worcester, 123 Fed. 67;

Harder v. U. S., 160 Fed. 463.

Therefore, it is necessary to find that the elimination of the small pieces of metal, cut away from the extreme outside edges of the web of the body in defend-

ant's reamers, *has changed* the function of such bearing or made some change in the co-operative relation thereof to the bearing of the cutter. If it be true that either (1) these small pieces of metal have merely been removed and *the flat faces* produced by their removal are either not used, thus having no function, or (2) have in no manner substantially changed either the function or the mode of operation or interrelation of the body and cutters, then the change is an immaterial one,—a mere workshop expedient.

Defendant *has not* extended the inthrust bearing of any of its cutters so as to bear on the flat face produced by cutting away such small portions of metal. Nor has such removal of metal in any way changed the action of the cutters on the body. This fact has been wholly overlooked by Judge Cushman.

The testimony of Arthur P. Knight, defendant's expert, clearly shows this. The testimony of Mr. Knight will be found commencing at page 542 of the record. His comparison of the showing and device of the Wilson patent with the Double patent No. 1 and Double patent No. 2, and with the mechanical exhibits in the case showing the "Double Improved" and so-called "old style" Double reamers, covers many pages.

On page 554 Mr. Knight refers specifically to what Judge Cushman has determined or referred to as the infringing change,—“entirely sheared away the side web of the extension to form a lug,” etc.

Mr. Knight says:

“In regard to this widening out of the bearing-face on the inside of the cutters in this improved Double underreamer, I call attention to the fact

that this is not widened out to the full width of the underreamer body extension, the cutting away of the remainder of this width being without any useful function or being necessitated or rendered desirable by the exigencies of manufacturing, it being easier to plane this cut right across than to attempt to cut it without removing the extreme end portion." [Record pp. 554-555.]

Mr. Knight thus points out *the fact* that defendant has not in any manner utilized, as a part of the intrust bearing on the body, the portions of the flat surface at the end of the body, which have been formed at the extreme edges by the removal of these small particles of metal, thus referred to by Judge Cushman. *These extreme portions form no part of the intrust bearing and are not utilized in any manner, not even to the extent they were used or utilized in the earlier Double reamers as bracing the cutter against twisting. These portions are entirely idle. They have no function whatever in defendant's reamers. This change was a mere change of form without change of function or of interrelation of the parts. In fact it was a mere incident in the changed manner of machining and has never been used as an operative part or portion of the reamer, either as an extension of the intrust bearing, or otherwise. Particularly has this change never been utilized by defendant to transfer the intrust bearing on the body from a single continuous intrust bearing at the center of the body and not extending to the edges thereof to a divided, spaced apart, and separated two-part intrust bearing, the two parts of which are arranged at the extreme edges or sides of the body, as in*

the Wilson reamer, when the intrust bearings are arranged as separated bearings on the surfaces of the separated forks or prongs.

In his opinion after referring to the “secondary dovetails” in the earlier Double devices and to “the corresponding ways in the inner faces of the extension” of the body, and to the fact that these added “ways cause an outward flare at the mouth of the recess” or body, and to the fact that as these ways were made deeper or wider and the flare increased a wider bearing would be given to accommodate a wider bearing upon the cutter body, Judge Cushman says:

“But when defendant departed from this form of construction and *entirely sheared away the side web* of the extension to form a lug, the bearing-faces to accommodate the wider cutter-head, he appropriated the invention and conception of Wilson and particularly of the patent in suit.” [Record p. 79.]

We find right here a statement by Judge Cushman of exactly what he found to be the infringement which was to be enjoined. It was not making a wider intrust bearing on the body for the cutter or a wider intrust bearing on the body. This, Judge Cushman finds, not only could be, but was, accomplished by the additional dovetails and their corresponding ways of the earlier Double reamers (and of Defendant’s Exhibit Double Patent No. 2). On the contrary it was machining off the small particles of metal which, in the earlier Double devices and in the reamer as shown in the drawings of the Double patent No. 2, existed at the extreme sides or outer edges of the end of the

reamer body. The presence or the shearing off of these particles of metal is absolutely immaterial to the co-operative relation of the cutters and body in defendant's reamers. Whether present or absent is immaterial in defendant's reamers *but* the separated bearings 9 *must be* arranged at the outer edges of the body and on the separated prongs in the Wilson reamer.

Not only, therefore, is neither claim 9 nor 19 capable of being decreed to cover the feature referred to by Judge Cushman by totally ignoring the terms of the claim, and not only is each of said claims when so revised totally anticipated by the Jones Removable Bowl Reamer and the prior Double reamers with the secondary dovetails and corresponding ways, BUT even if such claims could be *so* sustained as *so* reconstructed, defendant has not infringed either of said reconstructed claims.

As said by the Supreme Court in *Duff v. Sterling*, 107 U. S. 637:

"The case is one where, in view of the state of the art, the invention must be restricted to the forms shown and described by the patentee. He was not a pioneer; he merely devised a new form to accomplish these results."

Mr. Wilson devised the form of the "shouldered" cutters with their tilting shoulders 16 and inthrust bearings 4³, separated and arranged at the outer edges of the cutter (with the inwardly extended thickened shank between them), in combination with the pronged or forked form of body as a form differing from the forms utilized by defendant under the Double patents.

Mr. Wilson was a mere improver. His invention was not a broad or generic one, and when his application was before the patent office, by amendment to overcome rejections, he inserted in his specification statements of the purposes, objects and advantages of the particular forked formation in combination with the particular "shouldered" cutter formation to differentiate from the very forms of elements used by defendant. He *admitted* that he was merely an improver; that he had simply devised *a new form* to accomplish the particular objects and results specified by him. His contract or patent was made on the basis of these representations.

As said by the Circuit Court of Appeals for the Sixth Circuit in *Dowagiac Mfg. Co. v. Superior Co.*, 115 Fed. 886, at end of page 896:

"Whatever doubt there might have been as to whether the claim was limited to the construction of its language by the specification, *it was removed by the limitation which he put upon it by his explanation*, the consequence of which was the allowance of his patent, *and the claim must be read as limited in this respect* in the same way as are the other claims."

"A claim must be construed as limited by amendment and acquiescence in the patent office."

Peifer v. Brown, 112 Fed. 435.

And as said by the court in *Kelly v. Clow*, 89 Fed. 297, a Circuit Court of Appeals case:

"He cannot claim such a construction of his patent as would include what he was expressly

required to abandon as a condition of the grant, even if it takes away a material part of his real invention.”

And as said by the court in *Sutter v. Robinson*, 119 U. S. 530:

“Complainant is not now at liberty to insist upon a construction of his patent which will include what he was expressly required to abandon and disavow as a condition of the grant.”

And as said by the Supreme Court in *Roemer v. Peddie*, 132 U. S. 313:

“This court has often held that ‘When a patentee, on the rejection of his application, inserts in his specification, in consequence, limitations and restrictions for the purpose of obtaining his patent, he cannot, after he has obtained it, claim that it shall be construed as it would have been construed if such limitations and restrictions were not contained in it.’”

Judge Cushman has pointed out the change in the mode of operation and function made by the interrelation and coercion of the pronged or forked construction of body and the “shouldered” cutters.

The rule is well settled that—

“Where the mode of operation of the alleged infringement is substantially different from that of the patent in suit, infringement does not exist.”

Rule XI, *Hopkins on Patents*, Sec. 279;

Field v. DeComeau, 116 U. S. 187;

Yale Lock Co. v. Sargent, 117 U. S. 373.

“Mode of operation is a criterion of infringement on one side of that question, but not on the other. If the mode of operation of an alleged infringing device is substantially different from that covered by the claim alleged to be infringed, it follows that the charge of infringement must be negatived.”

Walker on Patents, 4th Ed., Sec. 341.

“One thing to be the equivalent of another, must perform the same function as that other; If it performs the same function, the fact that it also performs another function is immaterial to any question of infringement. Therefore, it sometimes happens that a junior device is an equivalent of a senior device in a sense that will constitute it an infringement of a patent for the latter, at the same time that the senior device is not an equivalent of the junior device in a sense that will cause the former to negative invention or novelty in the latter. One thing may accordingly be an equivalent of another, though it does more than that other, but it cannot be such an equivalent if it does less.”

Walker on Pats. (4th Ed.), Sec. 352.

Judge Cushman refers on page 76, next to the last paragraph, to the fact that in the suit upon the Double patent No. 1 the Wilson ways for the cutters to slide on, the faces of the prongs and lugs were no more than equivalents of the ways found in the Double invention, which is not determinative in any manner of the question of equivalency in construing the Wilson invention. This is pointed out by Mr. Walker in the text just quoted, and the same rule has been applied

by the Circuit Court of Appeals for the Sixth Circuit in *Curry v. Union Electric Welding Co.*, 230 Fed. 422:

“The word ‘equivalency’ as used in the patent law, is a relative rather than an absolute term. The device of a patent may be the equivalent of that of a prior patent, in such sense as to infringe, while the latter may not be the equivalent of the former, when the second patent is construed as narrowly as it must be.”

(230 Fed. 423.)

“It is a natural thought that if device b is the mechanical equivalent of patented device a and so infringes, then, because it is the equivalent of what is old in the art, it cannot be patentable, and the finding that it is patentable implies that it is not an equivalent; but this also fails to observe the relative rather than the absolute meaning of equivalency. Its existence depends on its range or scope, and device b may be the equivalent of a, when the latter is broadly considered, and yet a not be the equivalent of b, when the latter is defined as narrowly as it must be.”

(230 Fed. 429.)

Having in mind, therefore, the changes in form made in the reamer body and in the cutters, and the specific change of mode of operation and of specific interrelation of the pronged body and shouldered cutters thus produced by Mr. Wilson as differentiating from the prior Double reamers and from the prior Jones Removable Bowl Reamer, it is clear that defendant has not used in any of its reamers any body which is the equivalent of Wilson’s “underreamer body terminating in prongs forming a fork” or any cutter “having two shoulders and a bearing-face on the inner side of each

of the two shoulders to engage said prongs” or “mounted between the prongs of said fork,” as distinctly specified in claims 9 and 19.

It is equally clear that defendant has in no manner infringed the combination of either claim 9 or 19.

It is equally clear that neither claim 9 nor 19 can be construed as revised by Judge Cushman *to omit entirely the forked or pronged formation of body and to omit the “shouldered” cutter construction and to omit the interdependence of these particular forms of this body and cutter.*

Upon any view of the decision rendered by Judge Cushman it is found to be erroneous and must be reversed and the District Court directed to dismiss the consolidated suit or to dismiss both suits A-4 and B-62.

Defendant has not in this brief discussed in detail any of the testimony given by the witnesses. Upon defendant’s theory of the case this is not necessary. The decree appealed from is shown to be erroneous upon the very findings of fact made by His Honor Judge Cushman. If, however, complainant contests any of the facts found by Judge Cushman and this court desires to review such findings of fact, the defendant will brief the testimony as to these facts in a reply brief.

The form of decree appealed from is erroneous and should be corrected. It adjudges claims 2, 4, 8, 10, 11, 12, 13, 14, 15, 16 and 17 *valid* but does not grant any relief thereunder. It distinctly adjudges such claims *not infringed*. This leaves defendant without a remedy for the review of such decree that the claims are valid. The District Court having found these

claims not infringed should have simply decreed that “the bill of complaint be dismissed” as to each of these claims. Otherwise injustice may be done defendant in some subsequent matter. Defendant should not be bound by a decree that such claims are valid unless in *some* direct manner some relief is granted under such claims, so *that defendant may have the right to have such decree as to such claims reviewed in this court.* The validity of such claims is not before this court on this appeal. It is submitted that the mandate of this court should direct a correction of the decree in this respect.

If this court can take the view that the amended bill in B-62 was not limited to the Type “F” reamer, then defendant’s 5th and 11th assignments of error [Record p. 1116] must be sustained. A party cannot maintain two suits against the same defendant at the same time for the same cause of action. Nor can he divide or split up his cause of action for infringement of a patent and sue the same party (1) on one claim of the patent in one suit and (2) maintain a separate suit upon another claim of the same patent against the same party for the same infringing acts. The cause of action is indivisible. If Judge Bledsoe did not deny defendant’s motion (to dismiss suit B-62) on the theory that such suit was limited to the new and subsequent alleged infringement,—Type “F” reamer,—then his decision denying such motion was clearly erroneous and must be reversed and the District Court directed to grant said motion.

FREDERICK S. LYON,
Solicitor for Defendant.

United States
Circuit Court of Appeals,

FOR THE NINTH CIRCUIT.

Union Tool Company,
Appellant,

vs.

Elihu C. Wilson,
Appellee.

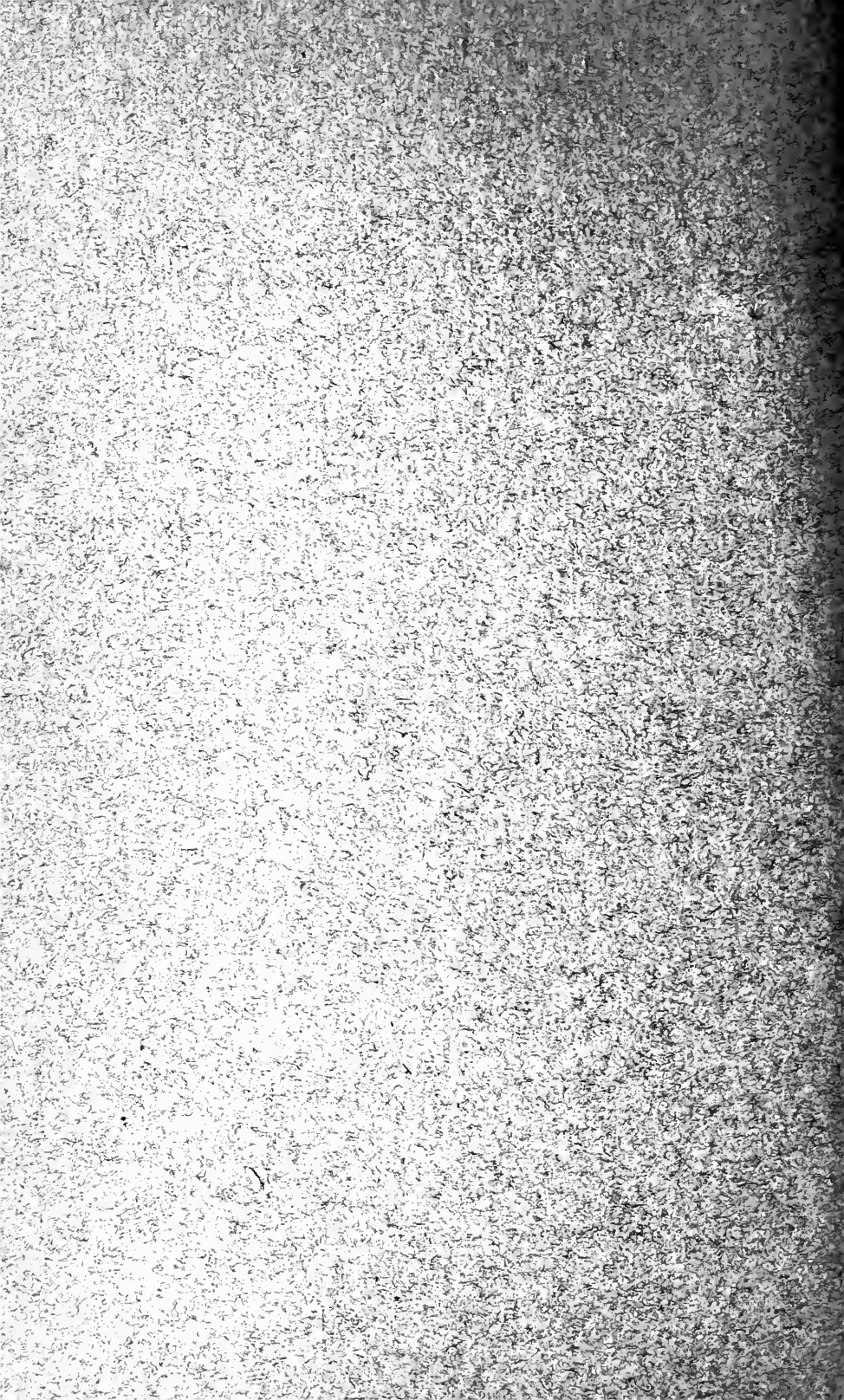
BRIEF FOR APPELLEE.

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Clerk.



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INFRINGING REAMER TYPE F

DOWNTHRUST BEARING 10

SHOULDERS 2" FORMING WAVES 3

PRONG 2

SPREADING BEARING 9

OPEN SPACE

DOWNTHRUST BEARING 10

LUG 2'

SPREADING BEARING 9

HOLLOW BODY 1

PRONG 2

DOWNTHRUST BEARING 10

LUG 2'

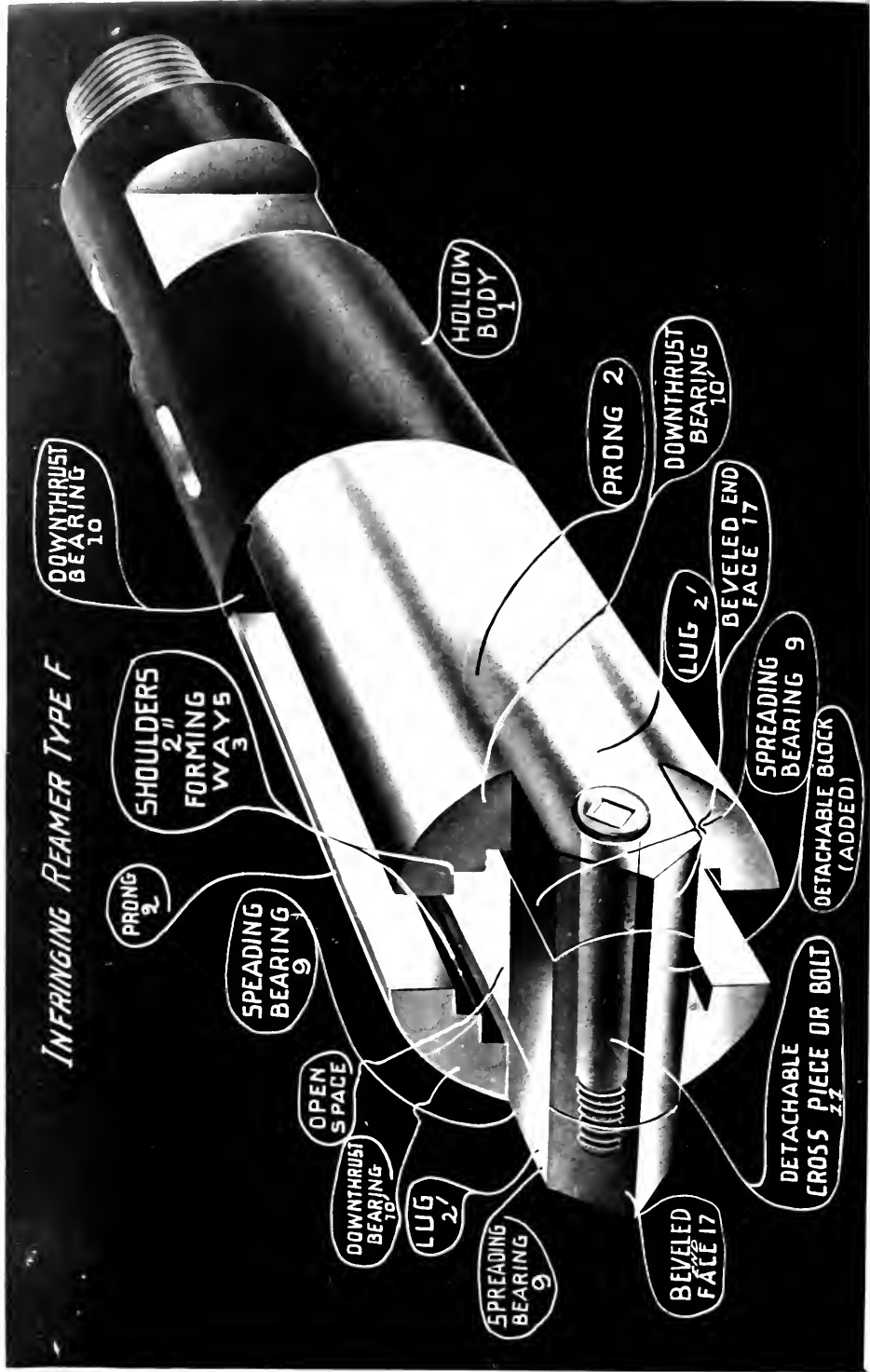
BEVELED END FACE 17

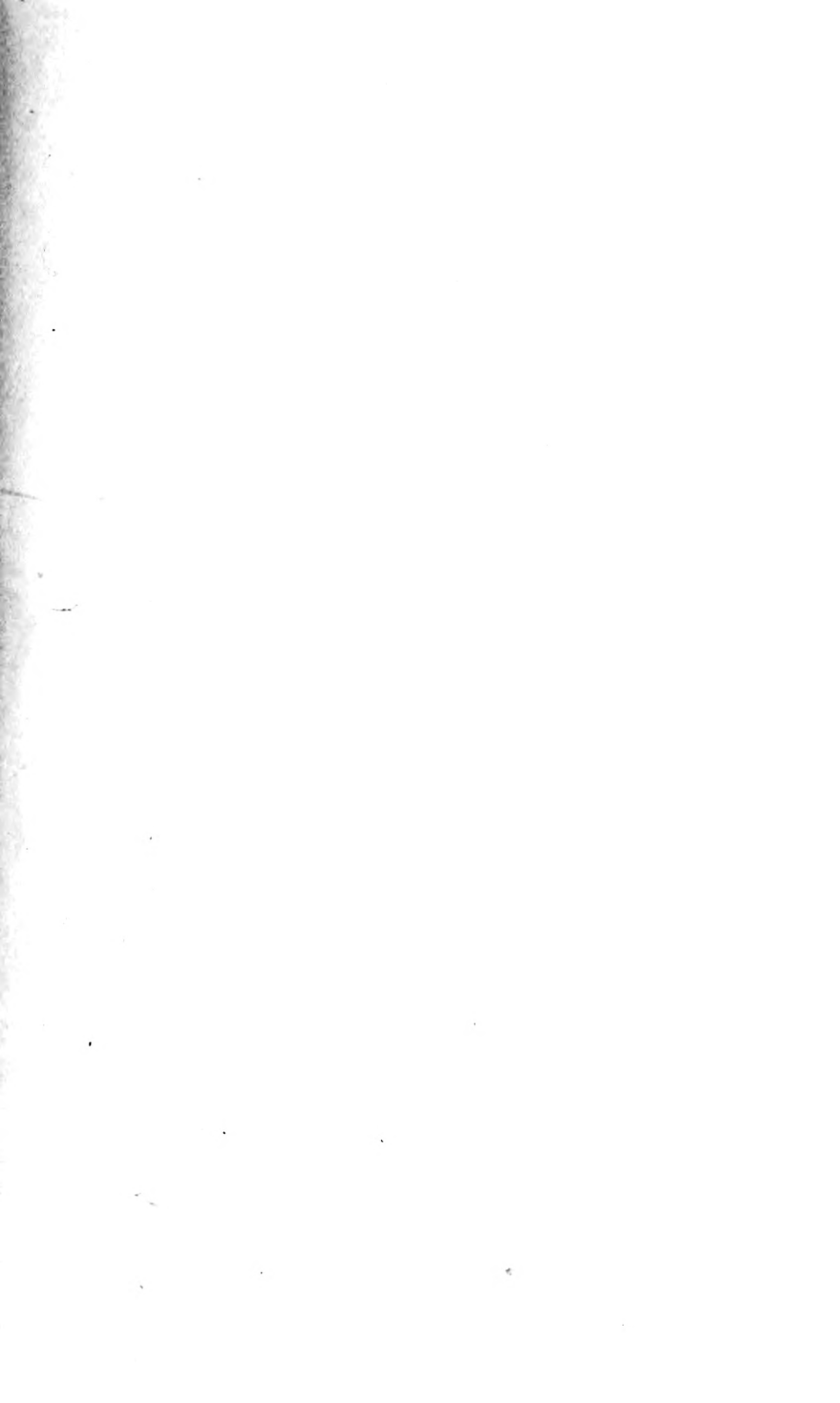
SPREADING BEARING 9

DETACHABLE CROSS PIECE OR BOLT 2'

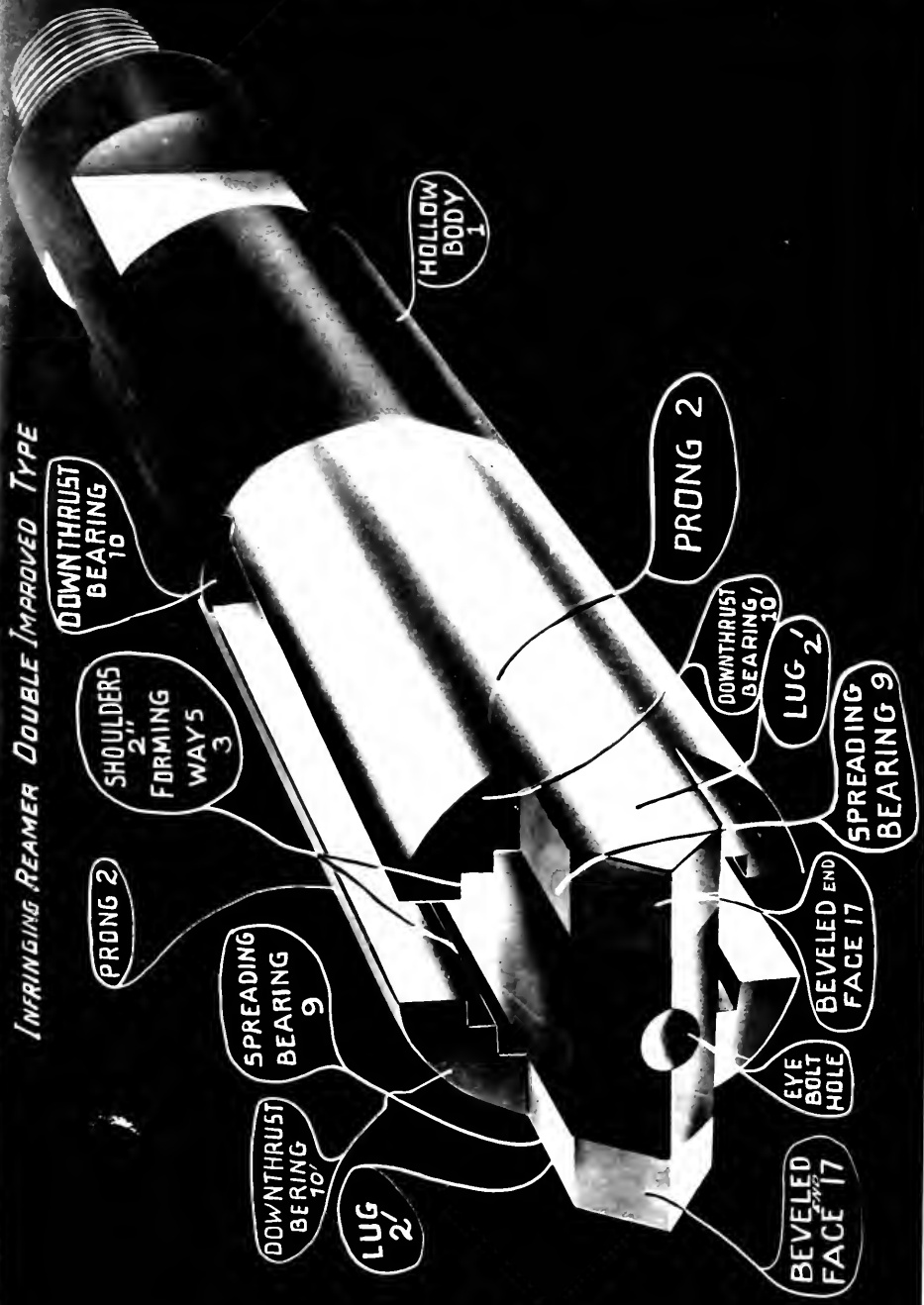
BEVELED END FACE 17

DETACHABLE BLOCK (ADDED)





INFRINGING REAMER DOUBLE IMPROVED TYPE



HOLLOW BODY 1

PRONG 2

DOWNTHRUST BEARING 10

SHOULDERS 2, 1' FORMING WAY 3

DOWNTHRUST BEARING 10

LUG 2

SPREADING BEARING 9

PRONG 2

SPREADING BEARING 9

BEVELED END FACE 17

DOWNTHRUST BEARING 10

LUG 2

EYE BOLT HOLE

BEVELED FACE 17

No. 2918.

United States

Circuit Court of Appeals,

FOR THE NINTH CIRCUIT.

Union Tool Company,

Appellant,

vs.

Elihu C. Wilson,

Appellee.

BRIEF FOR APPELLEE.

STATEMENT OF THE CASE.

This cause comes before this court on an appeal from the interlocutory decree entered against the appellant, the defendant Union Tool Company, which interlocutory decree held that the Wilson patent No. 827,595, for an underreamer, patented July 31, 1906, and sued on, was good and valid in law, particularly as to claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 19 thereof, and was infringed by the defendant and appellant as to claims 9 and 19 thereof, by the manufacture and sale or lease, or sale and lease, of the so-called "Double Improved," and "Type F" underreamers, like "Com-

plainant's Exhibit Improved Double Reamer and Cutters" and Complainant's Exhibit Defendant's Reamer Type "D" and Complainant's Exhibit Reamer Type "E," and Complainant's Exhibit Reamer Type "F." The defendant interposed the usual defenses such as want of novelty, and non-infringement. Likewise the defendant raised the contention at the final hearing that complainant had split up his cause of action under the patent in suit, by bringing two suits, the second after an election had been made to stand upon certain claims in the first suit, in spite of the order made by the trial court denying defendant's motion to dismiss the second suit and ordering the two suits consolidated. The second suit was brought after defendant had refused to permit complainant to depart from his election made on the record during the taking of proofs, to stand upon claims 16 and 17 of the patent in suit, in spite of the fact that defendant produced further infringing devices, after the taking of proofs had commenced, and which it was desired by complainant to bring within the issues of the first suit. Complainant contended that one of these devices, namely Complainant's Exhibit Reamer Type "F," as well as the reamers complained of in the original bill, further infringed claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 19, as well as claims 16 and 17; and in order to be relieved from such original election and that the charge of infringement be enlarged, a new bill was filed in a separate suit, No. B-62, which specifically referred to the election in the original suit No. A-4, and recited the pendency of such suit and alleged that since bringing the same complainant had determined that defendant had departed

from its original procedure in the manufacture and sale of underreamers, and had further and more elaborately infringed the patent sued under than involved in the mere infringement of the claims 16 and 17, as to which election was made in such suit A-4. As stated, the court ordered the suits consolidated, as one cause, "A-4 Consolidated," the parties being the same, and the patent sued under the same, and the jurisdiction being the same, and ordered that the *prima facie* proofs and evidence presented on behalf of complainant in A-4 be the *prima facie* proofs and evidence in such consolidated suit. Such evidence included the several types of underreamers above referred to and ultimately found by the court to infringe claims 9 and 19 of the patent in suit. As to the propriety of such procedure on consolidation of these suits, complainant, as we shall see, relied upon many authorities, in addition to the wise provisions of the present equity rules, and particularly rules 19 and 26 and 34. Defendant contended there was only one general cause of action under the patent sued on, namely, that of infringement of the patent as an entirety, but complainant contends that the same comprise a cause of action attaching to each claim of said patent alleged to be infringed, (each claim being in effect a separate patent), and that by electing to limit his suit by election on the record, in cause, A-4, to claims 16 and 17, complainant could not be barred from asserting by separate bill the technically distinct causes of action arising upon infringement of the other claims as specifically relied upon in B-62. In fact, infringement being a tort, each act produces a separate cause of action. It would have been technical blunder-

ing to have dismissed A-4 and substituted a new bill alleging infringement of claims 16 and 17, as well as the claims relied upon in B-62, particularly under the wise provisions of rule 19. Complainant never waived any of his rights—he only provisionally elected as to the first cause, A-4. The two suits were consolidated into one suit, the two bills of complaint were merged, and under rule 26 a plaintiff has the right to join in one bill as many causes of action, cognizable in equity, as he may have against the defendant. Prior to the taking of any proofs by defendant, and after the order permitting consolidation of the causes into one cause of action, the complainant gave notice upon the record as follows:

“Complainant gives notice to the defendant at this time that alternative to any disposition which may be made of equity suit No. B-62, consolidated by the order of the court with equity suit No. A-4, and thus constituting at present the suit known as equity suit No. A-4 consolidated, in which these proceedings are being conducted, namely, any disposition which may be made of said equity suit No. B-62 at the final hearing of this case with respect to such consolidation of said two cases complainant at such final hearing will rely upon claims Nos. 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 19, of the Wilson patent in suit herein. This notice of alternative attitude or position is given at this time in order that defendant may be apprised in the premises before commencing the taking of its proof.”

The court did, it is true, reserve to defendant the right to attack the order on consolidation prior to or

at the final hearing, but defendant never asserted this right: but rather urged at the final hearing that the bill of complaint in B-62 should be dismissed, which right was not reserved it and which was an issue settled by the prior ruling of the trial court denying defendant's motion in that direction. Defendant thus at the final hearing waived any right that it had reserved it to attack the regularity or propriety of the proceedings leading up to the complete organization of the consolidated cause and the effecting of such consolidation. And likewise defendant was fully apprised before its proofs were taken of the assertions and contentions of complainant as to infringement. This is all a matter of mere hairsplitting technicality, and the trial court refused to consider it, even upon motion for rehearing, for, as rule 19 provides, "the court at every stage of the proceeding *must* disregard any error or defect in the proceeding which does not affect the substantial rights of the parties." It is to be noted that this rule is *mandatory*, and does not leave it to the discretion of the court. The election in A-4 as to claims 16 and 17 was without a full comprehension of the scope and extent of the infringement acts of defendant, and complainant proceeded definitely and with precision to expand the charge and inquiry as to infringement, and the pleadings to that end, in a complete and effective manner, with the inevitably automatic result that claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 19 of the complainant's patent in suit came before the trial court, and *all* the proofs and evidence, in the charge of infringement. At no time, as the opinion of the trial judge says, did complainant waive his rights to assert

the claims further specified in cause B-62. Complainant, as the opinion said, had the right to withdraw the election and again broaden the issues.

This matter of the bringing of the two suits and the consolidation thereof has been three times passed upon, once by the Honorable Judge Bledsoe on the motions for consolidation and to dismiss, and twice by the Honorable Trial Judge Cushman, in his decisions on the merits and ruling on rehearing to which we refer, as they appear on the record. We thus come before Your Honors with but two really urgable defenses to meet and overcome, namely, the defense of novelty and non-infringement.

The interlocutory decree made the usual further findings as prayed for in the bill, and provided for the usual accounting and injunction, and ordered the usual taxation of costs against the defendant. The trial judge allowed the defendant to file supersedeas bonds in the total sum of \$25,750.00, staying the injunction pending appeal and superseding the cost judgment from which defendant also appeals, the costs having been apportioned as between the complainant and defendant, inasmuch as complainant did not prevail upon all of the claims sued under, although all of the same were found valid.

This cause came on for final hearing at the same time as another cause in equity, involving the appellant here and the Wilson & Willard Manufacturing Company, of which the appellee here is, and at all times has been, president, and of which said appellee owns substantially all of the stock. That cause of action, also on appeal to this Honorable Court, was likewise

decided in favor of complainants, and an opinion filed in the same finding defendant to infringe certain of the claims of the Double patent for underreamers sued on therein, and providing for the usual accounting and injunction and the taxation of costs against defendant. While these two suits do not involve identically the same parties, they do involve the same interests, inasmuch as one of the complainants in that suit, which may be referred to herein as No. 1540, is the defendant in this cause on appeal, and the defendant therein is, as stated, the corporation practically owned by the complainant in this suit. Both suits were brought under letters patent for underreamers for enlarging oil well holes to permit the lowering of the casing, and thus the underreamer manufactured by the defendant in each of these suits was found to infringe the underreamer patent of the respective parties complainant. The Double underreamer patent in suit No. 1540, No. 734,833, was issued in 1903, and the Wilson underreamer patent in suit here was issued in 1906. Cause No. 1540 was heard and argued and submitted before the Honorable Trial Judge just prior to the hearing and argument and submission of this cause No. A-4 consolidated. Defendant answered over in cause A-4 consolidated, in addition to its answer to the bill in A-4, and the defenses as to want of novelty interposed in such answers, particularly as to the prior patent art, are largely the defenses interposed by the answer in cause No. 1540, and certain other defenses as to want of novelty are likewise common to both suits. The Honorable Trial Judge found that neither patent was anticipated on any of these defenses, and

that both patents were for new and useful inventions, and that the underreamers manufactured by Wilson's company the defendant in cause 1540 consolidated infringe the Double patent, and the underreamers manufactured by the defendant Double's company in A-4-B-62 infringe the Wilson patent.

It will be seen from the above brief survey of the situation that these cases are closely inter-related, and it is difficult to understand how a clear and comprehensive and complete understanding of either of them can be obtained upon its consideration separately from consideration of the other. In fact, the Honorable Trial Judge Cushman who heard both these causes stated in open court during proceedings on objections to the statement of the evidence upon appeal prepared by defendant in 1540, pursuant to rule 75, *that it was his view and belief that both these causes on appeal should be argued and submitted seriatim so that joint consideration of the same might be given by Your Honors.* This was one ground upon which appellee successfully opposed the motion of appellant here to set this cause for hearing and submission before Your Honors during the last proceeding or February calendar, appellant's appeal not having been filed and docketed in timely season for the placing of the same regularly upon such calendar. We believe that this cause and said other cause should be presented to and considered by Your Honors together, inasmuch as the evidence in both causes is so closely dove-tailed together for a full clarification of the double-headed issues, and so thoroughly and effectively shows, taken altogether, the relations between the principal parties

to both these controversies, namely, the Union Tool Company, with its underreamer product, and the Wilson and Willard Mfg. Co., with its underreamer product. Cause No. 1540 was commenced in the year 1908, was dismissed for want of prosecution in 1910, and a new bill was thereupon filed, but no move was made to take proofs under the old equity rules until the fall of 1912. A-4 consolidated was commenced in February, 1913, while proofs were being taken in cause No. 1540, and the taking of proofs therein was carried forward as expeditiously as engagements of counsel permitted.

It is the contention of appellee here, borne out as it is by the record, that the patent in suit here really reflects the "last step in the art" within the meaning of the Barbed Wire Patent case, 143 U. S. The proofs before Your Honors in this cause show that the appellant here was driven to this infringement from desperation engendered by the great popularity and success of the Wilson patented underreamer, which reamer has increasingly superseded and driven from the field and trade the Double underreamer originally exploited by the appellant. To imitate the Wilson reamer was the only alternative to appellant, other than complete loss of its reamer business, as for instance shown by the evidence of the witness Wilcox that some twenty odd large oil producing companies, who previously used the reamers of the Union Tool Co., had abandoned the same and adopted and purchased in its place the Wilson underreamer. This was all due to the correction by Wilson in his radically novel underreamer of many inherent defects and weaknesses in the patented

Double underreamer, and his devising of a new reamer combination. The Wilson underreamer has been found an infringement of the Double underreamer patent, and the Double patent reamer has been found an infringement of the Wilson underreamer patent.

The Double underreamer patent was a prior patent, and as to its position in the art as found by the Honorable Trial Judge in case 1540, reference may be had to his opinion as found in 237 Federal Reporter. But Double did not standardize an acceptable reamer. His invention was incomplete and incapable of rendering the service required and the prevention of breakage and loss and damage to oil wells, and it required the Wilson invention of the patent in suit here to bring the art up to the high standard of approximate perfection. That the use of the Wilson invention in the "Wilsonized" Double underreamers, made by appellant here, is indispensable, is evidenced by the fact that defendant filed the appeal bond in the sum of \$25,000, superseding the injunction herein pending appeal. Wilson produced entirely new combinative entities as to the subjects of his claims 9 and 19 found herein to be infringed, and it is of course immaterial that specific subjects of the Wilson patent has been found in cause No. 1540 to infringe the Double patent. That created no excuse for the Double concern, the Union Tool Co., the appellant here, to depart from its earlier procedure in manufacture and sale, and to Wilsonize or remodel and redesign and reorganize its underreamer, and wilfully, as we shall show, to contain and embody the essence and vital substance of the Wilson patent. It is true that the court found that the appellant

here did not take *all* of the invention of the Wilson patent, but retained in its underreamer certain distinguishing characteristics of the Double patented underreamer. But, taking as defendant did of the substance of the Wilson invention, as broadly and comprehensively claimed in the combination claims 9 and 19, its piratical guilt is none the less established. It did not utilize the close collapsion of the cutters between the “prongs,” but it employed the prongs with the lugs at the lower ends thereof which was a highly important feature of the Wilson invention, as we shall see. As we more particularly discuss herein at another point, the use of the term “prongs” was consistently made throughout the Wilson specification and claims in order that there be no confusion as to the parts meant. It would have produced such confusion to refer to these lug-carrying and way-provided parts by more than one designation. On that score it has been said by the Circuit Court of Appeals for the Second Circuit in *Carlson Motor & Truck Co. v. Maxwell Briscoe Co.*, 197 Fed. 309, 315:

“The question is not one of nomenclature but of mechanics, and relates not to the names given to the parts of the combination, but to the functions they perform.”

This is an authority which was employed on brief by counsel for appellant here, in presenting to Your Honors the appellant’s case in *Stebler v. Riverside Heights etc. Co.*, reported at 205 Federal Reporter, 735. In the opinion rendered by Your Honors in that case very significant language was employed as to this proposition of hair-splitting with reference to termin-

ology employed in the claims. Your Honors' recollection is again called to the terminal portion of the opinion in that case appearing on page 740. Further referring to counsel's said brief he quotes in addition to the above citation the following language of the Supreme Court of the United States from *Topliff v. Topliff*, 145 U. S.:

"The object of the patent law is to secure to inventors a monopoly of what they have actually invented or discovered, and it ought not to be defeated by a too strict and technical adherence to the letter of the statute or by the application of artificial rules of interpretation."

Counsel also in that brief cites *Klein v. Russell*, 19 Wall. 433, as follows:

"The court should proceed in a liberal spirit, so far as to sustain the patent and the construction claimed by the patentee himself if it can be done consistently with the language which he has employed."

We shall see that the term "prongs" was applied in the Wilson patent to parts having three main function or characteristics.

Defendant here on argument at final hearing contended that there is a difference in mode of operation as between the appellant's structures found to infringe and the subject of the Wilson patent sued on, while forcefully contending (as found) in cause No. 1540 that the subject of the Wilson patent has the same mode of operation as the subject of the Double patent, and while contending here that the infringing structures have the same mode of operation as the

Double patent. In view of the decision in No. 1540, it stands *quod erat demonstrandum*, therefor, as far as appellant can be heard here, that within a proper inquiry on this side of infringement the infringing structures here have substantially the same mode of operation, as that of the subject of the Wilson patent. Going further, we shall see, that within the rule as laid down by Your Honors in *Stebler v. Riverside Heights Orange Growers Ass'n, et al.*, 205 Federal Reporter, 735, *supra*, it is immaterial here whether there has been an addition or whether there has been an omission, inasmuch as appellant will be found to have taken of the substance of complainant's invention. Likewise it will be found that no one of the prior patents or devices alleged to anticipate the claims of the Wilson patent found infringed can possibly be found so to do without that *reconstruction, reorganization* and *modification* condemned in these respects by Your Honors in the same decision.

These, then, are the leading circumstances surrounding and making up the issues which come before Your Honors for review.

The president of the appellant here, Edward Double, and the complainant here, have been before this Honorable Appellate Court previously on a question of infringement pertinent to underreamer devices, in that certain cause entitled "Wilson & Willard Manufacturing Co., and Elihu C. Wilson, appellants, v. Robert E. Bole and Edward Double, appellees, in which Your Honors' opinion is reported in 227 Federal Reporter 607. On that appeal the decision of the trial judge, the Honorable Oscar A. Trippet was reversed, and the

present appellee here Elihu C. Wilson, was found to be the inventor of the subject of the Bole patent under which he and his company were sued for infringement by said Bole and Edward Double the president of the appellant here. There has obtained a most acute condition of competition and rivalry as between these Union Tool Company and Double interests and these Wilson & Willard Mfg. Co. and Wilson interests, for the many years during which both have manufactured and sold large numbers of such underreamers. Appellee and his interests have made a long hard fight against the greater resources of the appellant here, and it has been unfortunate that appellee and his interests have had to meet such tactics of appellant and its Double interests as are clearly reflected in the opinion of the Honorable Judge Rudkin on the reversal made in the appeal of the cause last identified. The infringement found in the cause here is certainly a high tribute to the masterful inventiveness of the appellee here, and it is believed that the assignments of error here presented by appellant will be found baseless upon consideration of the analysis of the issues and proofs as hereinafter made; and upon all equitable considerations.

I.

The Patent in Suit.

The Wilson patent has specifically as its subject a “pronged” underreamer body formation, and the Double patent, in evidence here as Defendant’s Exhibit Double Patent No. 1 shows as its specific subject a

socalled "hollow slotted extension" type of underreamer body. These types have been found mechanical equivalents in the opinion of the court in cause No. 1540 reported in 237 Fed., *supra*. While, under the specific language of the claims of the Double patent, it has been our (unsupported) contention that such equivalents cannot be found, legally, nevertheless under the broader terms and more significant invention, as per the steps taken, of the Wilson patent, such equivalence is apparent. The claims infringed here use this term "prongs" to designate the portions of the body which are provided with other working features, such as shoulders on the inner faces, and the downwardly projecting lugs at their lower ends. In these respects "prongs" is used as a descriptive term without causing the confusion which would be incident to using three different terms, inasmuch as this term "prongs" is likewise used as definitive of the bifurcated structure at the lower end of the body, which, in accordance with one aspect of the Wilson patented invention, permits the cutters to collapse closely together, approaching each other between such prongs, and likewise permits assembling at the bottom of the reamer and "remachining." This close-collapsing performance of the cutters is not found in the infringing underreamers of appellant, but the other construction and inter-relation, pertinent to the provision of shoulders on the inner faces of the prongs and downwardly projecting lugs at their lower ends, with both of which the cutters co-operate, is appropriated by appellant, as well as the assembling and remachining advantages. As the Honorable Trial Judge well said, to make a point of

this double use of the term “prongs” is improper, for, to consistently and unvaryingly describe certain parts of the underreamer is not objectionable, and can raise no issue of noninfringement, as to stand upon any quibble in that connection would be tantamount to saying that “form becomes everything and substance nothing.” (Memorandum of ruling on rehearing.) As said in counsel for appellant’s oft-quoted authority, (in his own case), *Stebler v. Riverside Heights, supra*, the question is whether what has been taken by defendant pertains to the substance of the invention.

The patented Wilson underreamer comprises, as will be seen on reference to volume 3 of the transcript of record, pages 977-981, a hollow elongated body 1 provided at its lower end with the projections or prongs 2 forming a fork, and which terminate at their lower ends in downwardly projecting lugs 2', such prongs having shoulders 2'' on their inner faces to form ways 3 for cutters 4, the cutter shanks 4' having bearing shoulders 4² which engage inside of the ways 3; the cutters likewise having expansion bearing faces 4³ on lateral shoulders, which expansion faces co-act with the spreading bearings 9 on the lugs 2' which hold the cutters apart. The lugs terminate at their lower ends in beveled end faces 17 over which ride bearings 16 in which the expansion bearing faces 4³ terminate at their upper ends, thus causing the cutters in the main to be expanded and permitting them in the main to be collapsed, although the spreading bearings 9 are slightly upwardly and outwardly inclined to terminate the expanding action and initiate the collapsing action by co-action with the expansion bearing faces 4³. The cut-

ters are pivotally connected with a spring-actuated rod or stem 5' at the T-head or cross 5 at the lower end thereof, such connection being by means of recesses or pockets 18 in the inner faces of the cutters. These pockets 18 are formed in the cutter shanks 4'. The spring-actuated rod or stem 5' is received within the hollow body 1 of the underreamer, and adapted to move endwise therein, the spring 6 which actuates such rod or stem being a compression spring and confined between a nut 19 threaded onto the upper end of such rod, and a suitable holding device, shown in the patent to consist of a block 7 which forms a seat for the spring at its lower end, and through a hole or bore in which the said rod or stem may play, such block 7 being held in place in the hollow body 1 by dowel-pins or the like 8. Downthrust bearings 10, on the body between the prongs 2, co-operate with the upper ends of the shanks 4' of the cutters, and other downthrust bearings 10' are in the nature of shoulders on the forks at the lower ends of the shoulders 2' on the prongs, and which co-operate with the cutters 4 at the zone of the bearings 16. Inthrust upon the cutters in action is taken by the spreading bearings 9, to which it is imparted by the expansion bearing faces 4³, and outhrust of the cutters is taken by the shoulders 2'' of the ways 3 on the prongs which co-operate with the bearing shoulders 4² on the cutter shanks 4'. The cutters are provided with the usual shoulders 30, on their outer faces, which co-act with the casing or its shoe hereinafter referred to, to cause the cutters to be collapsed when the underreamer is to be elevated and withdrawn through the casing.

Furthermore, a detachable cross piece or safety bolt 11 is provided between the lugs 2' at the lower ends of the prongs 2, which to a certain extent braces the prongs, and likewise prevents the cutters and the tee or cross 5 from dropping into the hole and being lost, in case the rod or stem 5' should break, and similarly prevents dropping of either cutter in the hole in case a fracture should take place through the cross or tee. This detachable cross piece is held in place in two bolt holes 14 in the lugs 2', within one of which fits a nut 12 into which one end of the bolt is screwed by a suitable wrench or implement.

In use, the cutters are drawn down against the expansive action of the spring, the rod or stem 5' and the cutters moving together, and the expansion bearing faces 4³ moving over the spreading bearings 9, until the bearings 16 ride over the beveled end faces 17, permitting the cutters to more closely approach each other, or to swing together, in which action they may be accommodated between the prongs 2, as clearly shown in figure 1 of the patent drawing, so that the cutters may be entered into the well casing which is indicated at 40 in figures 1 and 2 of the patent drawings. This casing is shown as having the usual "shoe" at its lower end.

The underreamer is lowered through the casing, with the cutters so collapsed, and the cutters are retained in such positions of collapsion due to their confinement within the casing. When, however, the cutters emerge from the lower end of the casing or the shoe thereon, they are permitted to expand, the bearings 16 riding up over the beveled end faces 17, and the ex-

pansion bearing faces 4³ riding up over the spreading bearings 9, until the upper ends of the shanks 4' of the cutters come against the downthrust bearings of the cutters and, if the parts are so specifically formed, the bodies of the cutters at their sides are brought up against the downthrust bearings 10'. At all times, in both collapsion and expansion of the cutters the bearing shoulders 4² of the cutters are confined within the ways 3 upon the prongs.

The cutters are now in positions to ream, or to enlarge the hole, being thoroughly braced as to inthrust, upthrust and outthrust as above recited.

It will be understood that the reaming of the hole is necessitated in order to cut away the annular shoulder or wall in the hole which remains beneath the casing after a certain period of drilling operation has ensued, such annular shoulder remaining due to the fact that the drilling bit has an outside diameter less than the inner diameter of the casing. In order, therefore, that the casing may be lowered on down in the hole, to prevent "cave-ins," etc., and likewise to prevent invasion of the well hole by water, gas, etc., during development, this annular shoulder must be removed. The underreamer, therefore, is brought into position to remove such shoulder and its cutters are expanded as above stated in the space immediately above such shoulder and beneath the shoe of the casing which is elevated to make clearance between it and such shoulder for the cutters.

With the cutters thus in expanded positions the underreamer is reciprocated in the hole, or raised and permitted to drop alternately, by means of the drilling

line which is attached to the walking beam in the derrick at the mouth of the hole. The cutters attack the formation of the said shoulder or intruding annular wall formation and chip it or break it away and reduce it to cuttings or chippings or detritus which is mixed with water within the hole by a suitable circulating system, to produce a "mud" which is led away from the mouth of the hole, or is dipped out by a suitable bailer.

After the underreaming operation has been continued downwardly to a point substantially coincident with the bottom of the drilled hole, and the casing has been lowered correspondingly, the underreamer is put into condition for withdrawing from the hole by simply elevating it until the shoulders 30 come into engagement with the lower end of the shoe on the casing 40, which "pinches" the cutters inwardly and causes the expansion bearing faces 4³ to ride downwardly over the spreading bearings 9 until the bearings 16 are brought into engagement with the beveled end faces 17 upon the lugs 2', over which latter they ride until the cutters assume the collapsed positions illustrated in figure 1 of the patent drawings. In this connection, the body 1 of the underreamer travels upwardly while the cutters remain relatively stationery. When, finally, the cutters have assumed the collapsed positions they enter the casing or the shoe thereof, and, being confined by such casing and so held in collapsed condition, the entire underreamer is elevated and withdrawn from the casing at the mouth of the hole.

The drilling operation may now be continued, the drilling bit being substituted for the underreamer in suspension from the drilling line and being passed

downwardly through the casing and reciprocated by the drilling line to act upon the formations and carry on down the main bore of the hole until underreaming is again required, whereupon it is withdrawn and the underreamer substituted as before.

An important feature of the underreamer of the invention consists in the possibility of assembling the underreamer, or the cutters, the spring-actuated rod and its spring and the body, at the lower end or open mouth of the underreamer, without the necessity of employing a middle joint in the body 1, or a cap or joint at the upper end thereof. This, of course, is a feature of advantage of the underreamer and not such a thing as can be broadly claimed in itself, but is an advantage flowing *from the combination of parts and features provided by Wilson*, and something which was not possible of accomplishment before Wilson produced his invention. It is true that Defendant's Exhibit Double Patent No. 3 shows a construction and interrelation of features whereby the cutters and spring-actuated rod and its spring may be removed at the lower end of the body, *but part of the body has to come away with them*; and it was poor construction and one never adopted by defendant, in spite of this patent of its president, Double, to build a reamer in which part of the body, and an important cutter-expanding part of the body, is detachably mounted, and removable from the body. In accordance with the Wilson invention, all the cutter-expanding parts of the body, that is of the prongs and lugs and ways, remain fixedly in connection with the body, but by removing the dowel-pins 8 the block 7 may be withdrawn from the lower open end

of the body, between the prongs 2, and with it the spring and rod or stem and the cutters, so that the cutters may be detached for purpose of sharpening the same or "dressing" them out, after a period of operation. This is frequently necessary, due to the hard service to which the cutters are subjected in reaming. If, as in the prior art, and in Defendant's Exhibit Double Patent No. 1, it is necessary to provide a middle joint or detachable cap or "sub" for the body, so that the spring and rod can be inserted, as above the fixed shoulder 19 shown in Defendant's Exhibit Double Patent No. 2, for instance, a great deal of time is consumed, and an extra hazard is introduced within the "string," including the drilling line and the underreamer, namely, an extra liability of "failure" of the string or breakage, which breakage frequently occurs at such threaded joints. With the Wilson invention, the hollow body 1 is continuous and unbroken, and no such extra hazard occurs. Likewise, by using such detachable spring seat 7, or other substitute means such as the key found in the Type "F" infringing underreamer of defendant and which was the subject of litigation in Double and Bole v. Wilson *et al.*, 227 Fed., *supra*, and likewise found in Complainant's Exhibit Wilson Reamer, and which key combined with the other reamer features forms the subject of patent issued to this complainant's assignor May 16, 1916, No. 1,183,151, the rod or stem and its spring may be equally freed and lowered in and removed from the hollow body, so that the cutters may be disengaged and sharpened or dressed out, or fresh or new cutters substituted. The safety bolt or detachable cross piece

II is of course, removed to permit this operation. This feature of great importance as to which specific suit is now pending between this complainant's assignor and this defendant in the same court in which this cause had its trial and hearing, under said letters patent No. 1,183,151, *supra*, has been directly appropriated by defendant, with the accompanying feature of equally great importance, that the pronged formation may be machined back to reform the prongs and lugs after they have become worn, thus permitting the reamer to be made over anew, and greatly extending its life. These latter features are found in defendant's infringing reamer Type "F," and while there are no claims of this patent found infringed as to these features, particularly as the defendant in Type "F" uses the key of said later patent instead of the block and dowel pins in this patent, nevertheless as the defendant in appropriating the invention uses these advantages of the patent in suit, its such acts must be weighed against it under the well-known authorities. Type "F" also has the detachable portion at the bottom, which acts as a safety bolt and a brace, corresponding to the detachable cross piece or bolt II, although upon it is provided a spreading bearing with which the cutters in part co-act, that is, in addition to their co-action directly with the "prongs" of the claims 9 and 19 infringed. This Type "F" reamer simulates even more closely in appearance than do the other infringing types, the Wilson underreamers manufactured and sold by complainant, and this has been held an aggravation of infringement, in the nature of unfair competition, as in *Ludwigs v. Payson Mfg. Co.*, 206 F. R. 60, 1913,

cited in Walker on Patents, 5th edition, terminal portion of section 568, on page 630, as follows:

“It has been held in the seventh circuit that when the defendant has not only infringed but has also copied the plaintiff’s structure so closely that he is chargeable with unfair competition, damages for the unfair competition may be recovered in the infringement suit regardless of the citizenship of the parties. The reason given is that the unfair competition is an aggravation of the infringement.”

Other claims of the patent in suit, which were urged at the trial and hearing and which relate considerably to elemental portions of the underreamer, or details thereof, have been found not infringed, including claims 16 and 17 of the patent in suit for the cutters themselves. The decree finds all these claims valid and unanticipated, and while this is not the time to put forth fully our views as to the finding of non-infringement as to these claims, we may assert that, under the authorities, a cross-appeal, or appeal by complainant, will in due time be taken to Your Honors in this cause, from such finding, and Your Honors will be asked to find these other valid and unanticipated claims likewise infringed. It is appellee’s belief that if claim 9 calling for prongs provided with projecting lugs at their lower ends is infringed in defendant’s reamers, claim 10 is likewise infringed, although claim 10 has not the other features of the combination of claim 9; and so with respect to many of the other claims found valid but not infringed, and particularly with respect to claims 16 and 17, which call for the underreamer cutters each having two

shoulders with a bearing face on the inner side of each shoulder; for, these cutters and their shoulders and their bearing faces are the elements of claim 19 found infringed. Claim 10, in fact, put together with either claim 16 or 17, would produce the substance of claim 19, with the further limitation to the lugs at the lower ends of the prongs. This limitation is likewise found in claim 9. It is very true that neither claim 10, 16 or 17 is for a *combination*, and that the defendant does not use the “prong” construction for the purpose of permitting close collapsion of the cutters, but uses the “prong” features inasmuch as they are the *carrying parts* of the lugs which defendant also uses, and in Type “F” to permit assembling and remachining. Therefore, giving claim 10 such a construction as would involve the provision of the prongs for the purpose of permitting close collapsion of the cutters such claim 10 is not infringed. But that is not the *only* construction to which claim 10 is entitled. Claims 16 and 17 were found not infringed particularly because of voluntary limitations introduced within the specification, and which the court held barred a broad enough interpretation of such claims to cover the defendant’s cutters *per se*. Of course, in considering claims 9 and 19, any *such limitations in claims 16 and 17 are not to be considered, because claims 9 and 19 are to be construed with respect to the novel entities thereof*, and not with respect to any specific considerations of their parts and features, as within the doctrine of *Yesbera v. Hardesty*, 166 Fed. 120, 125, (C. C. A.), as follows:

“In a combination patent there are no unpatented features in the sense that they are separable from

the patented ones, and no one of the elements is patented. They may all be old and not patentable at all unless there is some new combination of them. The point to be emphasized is that the law looks not at the elements or factors of an invented combination as a subject for a patent, *but only to the combination itself as a unit distinct from its parts*, and in such case there could be no comparison of patented and unpatented parts.”

Also, on this question of unity or entity of combination claims, viewing such entities at another angle, it was said in *Gormley & Jeffrey Mfg. Co. v. Stanley Cycle Mfg. Co.*, 90 Fed., 280:

“Of course the claim cannot be defeated by showing that each of its elements separately considered, was old. The defendants must prove that the combination was old. If they fail in this, they fail irretrievably.”

Therefore, the infringement or non-infringement of claims 10, 16 and 17, and others found by the trial court not to be infringed, is not controlling with respect to infringement of claims 9 and 19.

Bearing in mind, as we have heretofore pointed out, that the term “prongs” is to be construed not technically, according to its exact definitions in general usage, inasmuch as the courts have held that the patentee creates his own dictionary in his specification and claims and the relation that they bear to the drawings of the patent, and bearing in mind that under the decision above *names* mean nothing, but functions are what are to be determined, it is clear that, with due

consistency, claims 9 and 19 having been found infringed, each and every of the other claims 2, 4, 8, 10, 11, 12, 13, 14 and 19 urged in the pleadings of this consolidated cause should have been found infringed, and also claims 16 and 17 unless Your Honors should find that the patentee so specifically limited himself in the file wrapper and contents of his application that these claims cannot be read upon the defendant's structures. It is, we contend, hardly proper to say that any of these claims are really for articles of manufacture, but rather that those which are not for complete underreamer combinations are for subjunctive features of the complete patented reamer, and it is proper to cover such subjunctive features or elements or groups of elements by claims in the same patent as that which claims the combination, or in and by a separate patent, as it was in *Wright Co. v. Herring-Curtiss Co. et al.*, 204 F. 97, on such subjunctive features:

“It is not essential to the validity of a claim of a patent that all parts of the machine, or all parts specified in other claims, which are necessary to its operativeness, should be included therein; but where the patent is for a combination, a claim may be for a sub combination, which, although not operative alone, is new and capable of cooperating with other things, which would be understood by those skilled in the art, or for which reference may be had to the specification to produce a useful result.”

As said in another case:

“If any of the elements are new and useful, and show invention, these may be claimed and patented. This may be done in a separate patent or by separ-

ate and distinct claims in the patent covering the combination, even though such parts are without utility, save in combination with other parts of the device.”

If now we take up claim 2, we find therein a sub-combination comprising the prongs with upper and lower bearings for the cutters, the lugs on the prongs constituting such lower bearings, and the ends of the lugs having beveled end faces. It is with these beveled end faces that the bearings 16 co-operate in initial expansion and final contraction. Clearly these features are all found in the infringing reamers of appellant. Likewise, in claim 4 we find the provision of prongs with shoulders on their inner faces to form ways for the cutters. This structure is clearly, in specific interpretation, found in the infringing reamer Type “F” in which there is the pronged formation consisting of furcations at the lower end of the body, and permitting remachining of the body and assembling of the parts at the bottom of the body.

Term “Prongs” Used by Wilson Patent in Three Cases or Senses.

It may be said that the term “prongs” is used in three senses in the patent in suit:—First, to indicate that forked formation which permits the cutters to more closely approach each other in collapshion; second, that subdivided or bifurcated formation which permits assembling of the cutters with the other parts at the bottom of the reamer and permits remachining of the lower end of the reamer body; and, third, that formation at the lower end of the body which carries ways 3

and lugs 2' with the spreading bearings 9 with which the bearing faces 4³ on the lateral cutter shoulders co-act, and having beveled end faces 17 with which the bearings 16 co-act. Claim 4 then is infringed in the second and third of these respects by the Type "F" underreamer of defendant.

Claim 8 also certainly should have been found infringed with claim 9, by the Type "F," reamer in cases 2 and 3 above. It is not limited to the lugs, nor to the specific cutters, nor to the lateral shoulders on the cutters, but it brings in further the operative element of means for operating the cutters, and the detachable cross piece 11, which is found in the Type "F" reamer, irrespective of whether that detachable cross piece has the bearing block on it or not.

Claims 2 and 10 disposed of above, should have been found infringed in all the types of reamers under case 3 above, and of course in Type "F" under cases 2 and 3.

Claims 11, 12, 13, 14 and 15 are clearly infringed in all the defendant's devices under case 3 above, and particularly by Type "F" underreamer under case 2.

Findings of Infringement Too Limited.

We urge that this Honorable Court consider the reasonableness and logic of these contentions with respect to the propriety of such further findings of infringement, which findings, though not urged to be made on this appeal, point unerringly and emphatically to the certain justice and merit of an affirmance of the decree of the court below with respect to infringement of the only two claims, namely, 9 and 19, which were

found infringed. To dismiss the appellee from this court without such an affirmance as to either of these claims, would be clear subtraction from rights and equities which already have been submitted, as we show above, to a process of reduction not warranted, we contend, within the very logic, and supportable logic, attaching to such findings of infringement as were made. We believe that as bearing upon the issues which are before Your Honors it is thus proper to discuss and weigh the findings of infringement which were made in the light of the further findings of infringement which might have been made, and to state to Your Honors that in view of the paucity of the prior art, as relating to the Wilson invention, it is our contention, and will be upon such prospective cross appeal, that further of the claims of this patent should be found infringed, having been found unanticipated and valid, *and that appellee was not decreed enough in this case.*

Big Step in Art Taken by Wilson.

There remains to be discussed preliminarily here, in connection with the discussion of the patent in suit, and with this preliminary collateral discussion concerning infringement, the particular features of novelty, utility, invention, and advantage provided by the Wilson invention and the subjects of claims 9 and 19 of the Wilson patent found infringed. We will see that defendant was driven to the infringement of this patent in order to retain any material portion of the underreamer business, *and thus in spite of the fact that its own patent, or the patent under which it has been and is licensed to operate, namely, Defendant's Exhibit*

Double Patent No. 1, was found by the trial court, immediately preceding the final hearing of the cause at bar, to be the dominant patent in the underreamer art, or to dominate the Wilson underreamer as made under the patent in suit here, and the patent for devices which really, as over against its predecessors, made underreaming a success in California. We will see from the record in the case at bar that these theoretical dominant characteristics of the said Double patent of appellant failed to so standardize the underreamer art as to permit the appellant to maintain any dominant position in the field (which is the true test as to dominance), but that upon the incoming of the Wilson invention as embodied in these combination entity claims 9 and 19, the art was so revolutionized and the appellee so thoroughly took the field as to render the patented Double structure PRACTICALLY OBSOLETE! The wilfulness and necessary wilfulness of the infringement by appellant here is therefore established by the very necessities which drove appellant to such infringement. Neither the defendant's much vaunted Defendant's Exhibit Double Patent No. 1 nor Defendant's Exhibit Double Patent No. 2 nor Defendant's Exhibit Double Patent No. 3 "turned the trick," so to speak, and gave the underreaming art what it demanded. In spite of appellant's efforts, and it is a large and powerful concern, appellee proceeded to place his underreamers with concern after concern who had previously used the Double underreamer, as, for instance, see the testimony of appellee's witness Charles E. Wilcox, commencing at page 387 of the record, and who testifies at record pages 396-401 that some twenty odd large oil produc-

ing companies, such as the Standard Oil Company and the Union Oil Company, have taken up the use of the Wilson underreamer, after previously using the Double underreamers of appellant:—

“Q. 16. Can you state the names of any persons or concerns to whom you have sold any such Wilson reamers during the last year?

A. Yes, sir.

Q. 17. Please do so and state where such concerns are located, giving place and state.

A. Standard Oil Company of Fullerton fields, California; Coalinga Land Company, Coalinga, California; Columbia Oil Company, Fullerton, California; Cornerstone Oil Company, Fullerton fields, California; Dorsby Oil Company, Fullerton fields, California; Burch Oil Company, Vera Canyon, California; Vera Canyon Oil Company, Vera Canyon, California; Union Oil Company, Fullerton fields, California; California County Oil Company, Ventura county, Calif.; Traders Oil Company, Ventura county, Calif.; Standard Oil Company, Newhall fields, California, Central Oil Company, Whittier, California; Standard Oil Company, Whittier, California; Murphy Oil Company, Whittier field, California; Sunset Security Company, Kern County, California; El Camina Oil Company, Kern County, California; Midway Oil Company, Kern County, California; Midway Pacific Oil Company, Kern County, California; Newcenter Oil Company, Kern County, California; Adeline Oil Company, Kern County, California; Knickerbocker Oil Company, Kern County, California; Baltimore Oil Company, Kern County, California; Section 25 Oil Company, Kern

County, California; Boston Pacific Oil Company, Kern County, California; Union Oil Company, Kern County, California.

(Mr. Blakeslee.)

Q. 18. Have you sold each and every one of these concerns during the last twelve months?

Mr. Lyon: Objected to as leading.

A. Well, I have not sold them direct. I believe that there has been that many Wilson reamers sold within that time. This business goes through the supply-houses and I do not get the order direct.

Q. 19. Are you able to say whether or not you have called upon all of these several concerns during the last twelve months?

Mr. Lyon: Same objection.

A. Practically all, yes, sir.

Q. 20. Did you see any reamers in use by any of these concerns at the time of such calls?

A. Yes, sir.

Q. 21. What reamers were they using?

A. They were using Wilson reamers.

Q. 22. Do you know whether any of these concerns had previously used any other reamer than the Wilson reamer?

A. Yes, sir.

Q. 23. And what reamer?

A. The reamer known and spoken of as the Double reamer.

Q. 24. By whom is that reamer made?

A. The Union Tool Company of Los Angeles.

Q. 25. The defendant in this case?

A. I believe so, yes, sir.

Q. 26. You have mentioned the Union Oil Company in a previous answer; do you know whether there is, or has been, any relation between that company and the Union Tool Company just mentioned by you?

Mr. Lyon: Objected to as incompetent, not the best of evidence, hearsay, not in the testimony, and as leading.

Q. 27. Now, the question is, do you know of your own knowledge?

A. No, sir, I don't.

Q. 28. Do you know whether the Union Oil Company ever used any Double reamers.

A. Yes, sir.

Q. 29. And when?

A. Well, they used them all over the state wherever they were drilling, exclusively, up to a couple of years ago. At least I do not know of their ever using any other kind.

Q. 30. Until what time?

A. A couple of years ago.

Q. 31. And then what did they use?

A. Well, they commenced using the Wilson reamers.

Q. 32. And have you ever observed any such use by that company?

Mr. Lyon: Objected to as leading.

A. Yes, sir, I have seen them using the Double reamers.

Q. 33. Now, my question was relative to the Wilson reamers.

A. By the Union Oil Company?

Mr. Lyon: Same objection.

Q. 34. The Union Oil Company.

A. Yes, sir.

Q. 35. When and where?

A. Well, I have seen them used out in the Brea Canyon field.

Q. 36. Where is that?

A. Orange county, California.

Q. 37. Any place else?

A. Yes, sir, I have seen them used in the Fullerton fields.

Q. 38. Where?

A. Orange county, California.

Q. 39. Do you know why the Union Oil Company used the Wilson underreamer after using the Double underreamer?

Mr. Lyon: Objected to as leading, incompetent, no foundation being laid, and calling for a conclusion of the witness and as not being a statement of facts.

A. Well, they thought it was a safer reamer in regard to breakage and that the Wilson reamer had advantages over other types in regard to remachining.

Q. 40. How do you know that they thought so; upon what facts do you base that answer?

Mr. Lyon: Same objections as in the previous question; not bearing any relation, etc.

A. They have very hard formation to drill through in that particular country out there, particularly in the Brea Canyon fields, and they have been trying to get down some of their old wells. They are trying to reach what is known as 'burch sand,' and they had more or less trouble with the breaking of cutters with the Double reamer. I induced them to try the Wilson

reamer; they tried them and have continued to use them since.

Q. 41. Do you know any of the officers of the Union Oil Company?

A. I know Mr. Hill; I believe he is the field superintendent. Also, am slightly acquainted with Mr. Brown, purchasing agent, I believe, and Mr. Pickering, superintendent of the Fullerton field.

Q. 42. Have you at any time *have* any talk with Mr. Pickering about the Wilson reamer?

Mr. Lyon: Objected to as incompetent, hearsay, and not the best *evident*.

Mr. Blakeslee: We are manifestly attempting to show evidence pertinent to the use of underreamers, further pertinent to the quality of the work done thereby and further pertinent to the reamers of the complaint and the defendant.

A. Yes, sir, I have talked with Mr. Pickering regarding the Wilson reamers.

Q. 43. Was this in connection with your service as salesman for the Wilson & Willard Manufacturing Company?

Mr. Lyon: Objected to as leading, incompetent and as calling for a conclusion of the witness; not a statement of facts.

A. Yes, sir.

Q. 44. Can you state any such conversation as you had with Mr. Pickering in this connection?

Mr. Lyon: Objected to as leading, and any such conversation would be objected to as incompetent, hearsay, not the best evidence, and is not being shown that the defendant or any of its officers were present during

such conversation, or in any manner bound thereby, and should be testified to by the parties expressing the opinions and not by hearsay evidence of what such opinion was.

A. Mr. Pickering said he was very well satisfied with the Wilson reamer. One time in particular he sent a Wilson in to be remachined and asked me when it would be back, and requested me to hurry it up as far as possible, that he did not have another Wilson there, and in a general way gave me to understand that he was very well pleased with the reamer.

Q. 45. When did this occur?

A. A year ago, probably; possibly not so long.

Q. 46. Can you state the name of any other concern using the Wilson underreamer at the present time, since using the Double underreamer?

A. The *Coalinde* Land Company, I believe, is using the Wilson reamer.

Mr. Lyon: We move to strike the answer from the record on the ground that it is a mere guess, a conclusion and expression of an opinion of the witness; hearsay, incompetent and not the best evidence.

A. I will state that the *Coalinde* Land Company is using the Wilson reamer at the present time.”

Further showing the extensive adoption of the patented underreamer and its superseding of the Double underreamer, all of which drove the defendant to piracy in order to attempt to hold its place in the field and trade, see the testimony of Hubbard, at that time a salesman for the Wilson & Willard Manufacturing

Company [R. Q. 82 to Q. 107, pp. 411-415], as follows:

“Q. 82. Can you give the name of any concerns that have [342] placed such orders through your efforts in those fields, for Wilson reamers?”

A. Well, there is—I don’t know that they placed their orders through my efforts, but the K. T. & O. and the Standard of Coalinga have placed orders for Wilson reamers.

Q. 83. How recently?

A. Within the last three months, or four months, I should say.

Q. 84. Do you know whether these *interest* had previously used any other type of underreamer?

A. They have used the Double underreamer.

Q. 85. For how long a period of time, if you know?

A. I couldn’t say as to that.

Q. 86. In the fields you have mentioned, approximately, how many concerns, or interests, are actually drilling oil wells at the present time, if you know?

A. Between the Coalinga and Ventura county fields inclusive, there are about twelve or thirteen companies actually engaged.

Q. 87. Have you, or have you not, visited the properties, or certain property, of each of these companies?

A. I have.

Q. 88. Within the last three months?

A. Within the last three months; yes, sir.

Q. 89. And how many of such interests were using the Wilson underreamers in the development of oil wells?

A. Well, out of the twelve or thirteen companies, there were eight or nine of them actively engaged in using the Wilson reamers.

Q. 90. Can you give the names of such companies?

A. The Standard at Coalinga, the K. T. & O. and the Fillmore Oil Syndicate at Fillmore; Brookline at Santa Maria, [343] Ramona Home at Piru, and the Beatty Oil & Development Company at Piru, California.

Q. 91. Has the Western Union Oil Company any properties in those fields?

A. In Santa Maria.

Q. 92. What reamers are they using?

A. Double reamers, at present.

Q. 93. State a little more specifically as to the Standard Oil Company's practice. What reamers are they using?

A. To my knowledge the Standard use the Wilson reamer exclusively in Coalinga, California.

Q. 94. Had they previously used any other under-reamer?

A. I think they had.

Q. 95. What reamer was that?

A. I do not know, that was before my time.

Q. 96. Do you know how many Wilson reamers they have at the present time?

A. No, I could not say as to the number they now have.

Q. 97. Can you mention any specific instances, within your own knowledge of the recent purchase of a Wilson reamer, and the circumstances surrounding such purchase in those fields?

A. For instance, at Ramona Home at Piru, California, they had at least two Double reamers up there which they had broken and with which they had been having a good bit of trouble, losing lugs, so they adapted the Wilson and since that time they have made seventy-five feet of hole where before they could not get ahead at all.

Q. 98. What is the source of your information?

A. Mr. Root, the head driller, and Mr. Bolin, the manager of the company, told me this.

Mr. Lyon: We move to strike the answer from the record and exclude [344] it therefrom, on the ground that it is incompetent, not the best evidence; hearsay.

Mr. Blakeslee: We oppose the motion on the ground that it is what may be called a 'trade report,' showing operations in the field in question.

Q. 99. Did you sell this reamer to this concern?

A. I did not.

Q. 100. Do you know of any other instance in which the Wilson reamer was recently purchased in these fields, where you were acquainted with the circumstances surrounding such purchase?

A. The Brookline at Santa Maria had a very small three-inch hole and had been using the Double reamer. He knew he was going to have trouble in that hole, so he purchased a three-inch Wilson which done the work properly.

Mr. Lyon: We move to strike the last portion of this answer from the record and exclude it therefrom on the ground that it is incompetent, and ask the witness at this time if he has personal knowledge of the

use of such Wilson reamer, or is he simply reporting from hearsay?

A. Mr. Bell, the superintendent, told me these things.

Q. 101. Have you, during the last three months, been to the properties of the California Limited Company, in the Coalinga field?

A. I have.

Q. 102. Do you know whether they are using the Wilson reamer?

A. They are using the Wilson underreamers.

Q. 103. Have you any idea of how many they are using?

A. I could not say as to the number they are using.

Q. 104. Do you know whether they had previously used any [345] other reamer?

A. They had used the Double reamer.

Q. 105. Are they using it at the present time?

A. In the larger sizes.

Q. 106. What type Double reamer are they using, if you know?

A. I cannot say as to that.

Q. 107. Did they give you any intimation as to what their future policy would be with respect to the purchase of reamers?

Mr. Lyon: Objected to as leading and suggestive, and as incompetent; not the best evidence of any such conversation being shown to have taken place in the presence of the defendant, or anyone connected therewith, and we submit that this witness has no personal knowledge of such policy, or alleged policy.

Mr. Blakeslee: We are simply trying to show

trade conditions and the situation with respect to reamers, out of the mouth of this witness who has recently acquainted himself with such conditions.

A. Why, their chief storekeeper, I don't recall his name, told me that they were very well loaded up with Double reamers in the large sizes at the present time, but that in the future, as soon as these larger sizes were used up, he would in all probability, purchase some Wilsons.

Mr. Lyon: We move to strike this from the records upon the grounds stated in the objection."

Also Hubbard [R. Q. 136-161, pp. 420-425], as follows:

"Q. 136. Did you take any steps to ascertain in the fields you have visited as testified to, what breakage, if any, had occurred in the cutters? [350]

Mr. Lyon: Objected to as not being redirect examination.

A. Why I don't—there is an instance I was trying to recall but I don't recall it.

Q. 137. What I mean is, did you make any effort to determine what breakages had occurred in reamers and cutters?

A. Yes, sir, I have.

Q. 138. And how about losses of cutters? Did you make any investigation about that? Losses in the hole?

Mr. Lyon: Objected to on the ground that it is incompetent, not the best evidence, but apparent that the witness can only have hearsay knowledge of, and not

personal knowledge of the subject matter inquired about. Not redirect examination.

A. Why in one instance; I was told by Mr. Root of Ramona Home that they had about fourteen or fifteen cutters lost in the hole.

Mr. Lyon: We move to strike the answer from the records and exclude it therefrom, upon the grounds as stated in the objection to the question, and particularly as it appears that the same is hearsay, incompetent and not the best evidence.

Q. 139. And what type of reamer, or kind of reamer?

Mr. Lyon: Same objection.

A. Double reamer.

Q. 140. Manufactured by what concern?

Mr. Lyon: Same objection.

A. Union Tool Company.

Q. 141. The defendant in this case?

Mr. Lyon: Same objection.

A. Yes, sir. [351]

Q. 142. What causes cutters to be lost in the hole?

Mr. Lyon: Objected to as incompetent, no foundation being laid, and witness not being qualified to answer the question.

A. The breaking out of the dovetails would cause it. And for instance, in underreaming, in pulling out, the Double reamer seems to have a tendency to hang on the bottom of the shoe, and they have to jar it to get the reamer loose; consequently, sometimes they pull the cutters off.

Q. 143. And what do you mean by the shoe?

A. The shoe is the heavy cover on the bottom of the casing.

Q. 144. And the underreaming is performed beneath that shoe, is it not?

A. Yes, sir.

Q. 145. Would breakages of cutters cause losses in the hole, or not?

Mr. Lyon: Objected to as incompetent, witness not being qualified to answer the question, and as leading.

A. It all depends on where they were broken.

Q. 146. Suppose the cutters of the Double reamer were broken at the shanks, or the notched portion of the shanks which you have referred to, during the reaming operation, what would occur with respect to the portions of the cutters beneath such zones of breakage?

Mr. Lyon: Same objection.

A. Of course the portion of the cutter below the breakage would be left in the hole.

Q. 147. Do you know what they have to do before work can be continued, or drilling continued, in a hole in which [352] cutters are lost?

Mr. Lyon: Same objection.

A. They would either have to fish them out, or side-track them.

Q. 148. What is side-tracking?

A. Side-tracking is shoving them off to one side so the casing can go down.

Q. 149. What tool do they side-track with?

Mr. Lyon: Same objection.

A. Well, sometimes they can with the under-reamer, and sometimes they drill them out.

Q. 150. During your trips through the fields which you have visited during the last three months, had you particularly looked for broken cutters?

Mr. Lyon: Objected to as not redirect examination.

A. Not particularly.

Q. 151. Then anything you know about broken cutters, or lost cutters, or breakage of cutters, or strength of cutters in resistance to strains tending to break them, comes from statements that have been made to you by persons in charge of the properties you have visited; is that correct?

A. They have made these statements to me without my asking.

Q. 152. Have you ever been in touch with any of the Beatty Oil Company people?

A. Yes, sir; Mr. Beatty of the Beatty Oil & Development Company.

Q. 153. And when?

Mr. Lyon: Objected to as not redirect examination and as irrelevant [353] and immaterial.

A. Last Saturday was the last I was in touch with Mr. Beatty.

Q. 154. What were the circumstances of that meeting, and where did it take place?

A. I met Mr. Beatty in his office and we took a little machine ride. I also took him down to the Wilson & Willard Manufacturing Company.

Q. 155. Did the question of reamers come up while you were with Mr. Beatty that day?

Mr. Lyon: Objected to as immaterial and as not redirect examination.

A. Yes, sir.

Q. 156. What transpired between you with regard to reamers on that day?

Mr. Lyon: Objected to as incompetent, it being evident that it is an attempt simply to prove a conversation, and it is not shown that the defendant, or any of its officers, or any one connected with the defendant was present at such conversation. The conversation is therefore apparently incompetent and inadmissible and any statement that Mr. Beatty may be alleged to have made at such time, cannot be admitted in the evidence, by the mouth of this witness, the same being incompetent and not the best evidence and such statements not having been made under oath, nor an opportunity offered defendant to cross-examine the maker of such statements.

A. I took Mr. Beatty to the shop and showed him the different reamers in the course of manufacture; showed him the different parts, especially our 'T' bar, showing the great strength of it and introduced him to Mr. Wilson. After our conversation, Mr. Beatty seemed to be convinced that the Wilson was the stronger reamer and on leaving, told us that in all [354] probability in the future he would buy the Wilson reamers.

Mr. Lyon: We move to strike the answer from the record upon each of the grounds stated in the objection to the question.

Q. 157. Did anything transpire at the shop with respect to the efficiency of reamers and cutters in general?

Mr. Lyon: Same objection.

A. Mr. Wilson talked with Mr. Beatty as to the

strength of our cutters, they being stronger than other makes, and as to the material used in those cutters.

Q. 158. Did Mr. Beatty have anything to say in this connection with respect to his experience with reamers and cutters?

Mr. Lyon: Same objection as noted in the last two questions.

A. Mr. Beatty said that he had had a great deal of trouble in *loosing* cutters in the hole.

Q. 159. With what type of underreamer?

Mr. Lyon: Same objection.

A. With the Double reamer.

Q. 160. And what had those losses been due to?

Mr. Lyon: Same objection.

A. The loss of cutters in the hole?

Q. 161. What had such losses been due to; or what had been the cause of such losses?

Mr. Lyon: Same objection.

A. The cause was the breaking of the cutters in the hole."

There are many reasons for all this, many superiorities and points and features of advantage and better construction, which were given to the underreaming art by the Wilson invention of the patent in suit, and adopted by defendant, and the specification of such patent has this to say in lines 8 to 39, inclusive, page 1:

"Objects of this invention are to provide an underreamer of superior strength and of superior width and expansion of cutters so as to enable reaming as great a portion of the circumference of the hole as possible at each stroke, to insure greater safety against losing

the cutters from the body while reaming, to avoid the necessity of a middle joint in the mandrel or reamer body, and to leave a maximum open space between the cutters to receive the loose material or sludge at the bottom of the well or other opening during the operation of drilling.

By this invention it is possible to increase the strength of the cross or T which suspends the cutters.

In this invention a cross or T formed of a single forging is provided for suspending the cutters.

Another decided advantage is simplicity and convenience of attaching and removing the cutters and suspending devices from the reamer body.

Another advantage is facility of collapsing the cutters. I so construct the mouth of the underreamer as to dispense with stock between the collapsed cutters, thus enabling the cutters to close together. This feature makes extreme expansion possible and makes the use of maximum amount of stock in shanks of cutters possible, thus insuring maximum strength of cutters."

Appellant Uses Substantially All Wilson Features.

Of these features of advantage, practically all of the same are embodied in the infringing reamers here, with the exception of the close collapse of the cutters between the prongs of the fork, and more of such features are found in the Type "F" infringing reamer than in the original so-called "Improved" Double reamer, and Types "D" and "E," all of which have been found to infringe. With respect to the cutter elements, namely, the cutter 4, and the several parts and features thereof, and which cutters are included

in the combination claims 9 and 10 found infringed, William W. Wilson, testifying as expert on behalf of complainant, has the following to say, [R. pp. 267, 268, 269]:

“A. The great width of the part 4 permits the cutter to ream a comparatively large part of the circumference of the hole at each stroke, and, therefore, making for faster reaming and more certain reaming of the entire circumference of the hole. The placing of the bearing-faces 4³ in the body of the cutter, as shown, produces a substantial bearing-face at the outer portion of the cutter body more firmly and securely bracing the cutter against strains caused in use, particularly those applied on one side of the cutter or tending to have a twisting action on the cutter body. The placing of the expansion-bearing face 4³ low down on the cutter body permits the cutter to be braced at a point more in line with the cutting edges of the cutter, thus placing a reduced bearing action on the cutter-shank than would be the case were this bearing placed higher up. The enlargement of the cutter at this point permits the placing in this portion of the cutter a greater quantity of metal, which makes for longer wear and greater ability to stand abuse. The placing of expansion-bearing face on the cutter body permits a longer projection of the cutters below this point to be used, thus making for longer wear and permitting the cutter to be dressed more times before it is worn out.

Q. 17. (By Mr. Blakeslee.) What effect upon the cutting action or cutting arrangement of the cutter does the provision of the lateral enlargements or

shoulders thereof in the cutters of the Wilson patent have?

A. This lateral enlargement of the body of the cutter over the shank as shown in Figure 9 of the patent permits an increased width of cutting face on the cutter when in reaming position, as shown in Figure 4, which causes the cutting face to embrace more of the entire circumference of the cutting circle, causing the reamer to ream more at each stroke of the tool, which makes for faster reaming and more certain reaming. The great difficulty found with narrow cutters was that they tend to start a key-seat in the hole or grooves down the side of the hole in which the cutters work, preventing the reamer from rotating and preventing a complete reaming of the hole, thus preventing the possible lowering of the pipe past this point. In order to overcome this, the tools are fed very slowly with the narrow cutter reamer so as to make as sure as possible that the cutters have engaged the entire circumference of the hole at the point where the reaming is in progress.”

See the testimony of the same witness commencing at Q. 18, p. 269, to and including Q. 45, p. 284, R., in which the complainants point out the completeness with which the improved infringing Double underreamers of appellant have superseded the “old style Double underreamer,” namely, that of the Double patent, Defendant’s Exhibit Double Patent No. 1, and in which the witness further compares the cutter structures of the old style Double reamer with the cutter structures of the improved Double reamer, and the

cutter structures of the improved Double reamer with the cutter structures of the Wilson patent reamer, and the co-operation of such infringing cutters with the co-acting parts of the bodies of the underreamers, producing expansion and collapshion, and taking inthrust, preventing rotatory action, and taking upthrust, and the like. It is to be borne in mind that this testimony was taken prior to the more flagrant infringement by appellant in and by the manufacture and sale of the Type "F" underreamer. That reamer was produced subsequent to the commencement of taking proofs in this case, and after its production the new bill of complaint in sub-cause B-62 was filed, and in which the charge of infringement was enlarged, and which cause was consolidated with sub-cause A-4, of the consolidated cause A-4-B-62, such *prima facie* proofs theretofore taken in sub-cause A-4 being made *prima facie* proofs in the consolidated cause, by the order of the trial court. When this Type "F" reamer was introduced in evidence, this same witness compared the same with the Wilson patent in suit, and there is shown in this testimony the more elaborate infringement in Type "F," and the appropriation in this reamer of the key feature by appellant's interests from Wilson the appellee, as established in 227 Fed. 607, *supra*, and which Type "F" is assembled at the bottom like the Wilson underreamer and can be remachined like the Wilson underreamer [see R. Qs. 239-273, pp. 527-539] which we quote here as follows:

"Q. 239. Please now compare Complainant's Exhibit Reamer Type 'F,' also known as 'Complainant's Exhibit Defendant's Reamer Type "F," etc.,' with the

Wilson patent in suit, namely, 'Complainant's Exhibit Wilson Patent,' with respect to the construction, combination, interrelation and operation of parts and features.

A. The body in both the underreamers, Complainant's Exhibit Defendant's Reamer Type 'F' and the underreamer shown in 'Complainant's Exhibit Wilson Patent,' both consist of a body surmounted by a square and suitable screw-threaded joint for the attachment of a string of tools. The main body is in one single piece in both cases. In this body is a central bore extending up in rather close proximity to the upper portion of the body. In this bore is placed a spring for flexibly supporting the underreamer-cutters. At the lower end of the bore are fork-mouthed extensions, which extensions have on their inner faces grooves or dovetail ways for the retention of the cutters, these cooperating with the dovetails on the shanks of the cutters. At the lower end of the prongs are bearing faces which bear against the inner faces of the cutters on the body of the cutters, and in the 'Complainant's Exhibit Defendant's Reamer' this bearing extends somewhat up on the shank of the cutter. On the lower end of the prongs there are suitable holes for the reception of a bolt, which bolt is threaded into one of the prongs after passing through the hole in the other one. This bolt in Complainant's Exhibit Defendant's Reamer Type 'F' is also arranged to support a loose or movable block which does not exist in the underreamer described in 'Complainant's Exhibit Wilson Patent.' This block forms an extension of the bearing faces on the lower ends of the prongs, which bearing

faces co-act with the cutters when in expanded position. Also, on the lower ends of the prongs on both underreamers are upwardly and outwardly inclined bearing-faces. The angles of this upward and outward inclination of the lowermost bearing-faces on the prongs of 'Complainant's Exhibit Defendant's Reamer,' as near as I can measure it, is identically the same as that shown in the drawings of 'Complainant's Exhibit Wilson Patent.' These are for the purpose of co-acting with the shoulders of the cutters when the cutters are in collapsed position, and the effect of this angle is to regulate the pressure of the cutter against the walls of the casing when passing into and out of the well. The cutters in both cases consist of a body surmounted by a shank with the dovetails on the shank, a shoe-notch on the outer edge of the shank, and suitable tapered bearing-face at the lower end of the shank, which bearing-face is intended to ride against the casing when the cutters are collapsed, and a tapered inclined portion just above the shoe-notch. The body of the cutters consists of a curved exterior portion meeting with two parallel lateral faces. The upper corners of the meetings of these surfaces with the curved surface are curved or rounded as shown at 16 in the drawing. The inside portion of the body is cut out or relieved of the upper curved portion, below which is a straight portion or plane surface at right angles to the lateral planes of the cutter body. Above this in both cases is a plane face 4³ in the drawing, which forms bearing-faces on the outward extensions or shoulders of the body of the cutter beyond the shank in both cases. The upper end of the shank of the

cutter shows in 'Complainant's Exhibit Wilson Patent' as a slot 18, against which the prong or extension 5 of the cross 5', or, as we now call it, the tee bar of the underreamer bears. In the Defendant's Exhibit Defendant's Reamer Type 'F' the cutter has near the upper end of the shank a square lug projecting inwardly, with a shoulder which bears against a projection on the lower end of the tee bar or cross. At the upper end of the tee bar or cross in both cases are suitable threads for the reception of the nut 19 in the drawing; also a hole for a cotterpin 20, and the cotterpin 20 for the supporting of the upper end of the spring 6. The lower end of the spring 6 in 'Complainant's Exhibit Wilson Patent' is supported upon a block 7 which, in turn, is supported by pins 8 which rest against holes in the body. In Complainant's Exhibit Defendant's Reamer Type 'F,' the lower end of the spring bears against a key, the lower edge of the key resting against holes or slots in the sides of the underreamer body. The key in this case has suitable downward projections for retaining the same in the body and passes through an enlarged slot in the tee bar. In 'Complainant's Exhibit Wilson Patent' the block consists of a cylindrical piece with suitable reception notches at the sides of the pins 8, the lower portion of the block extending down and forming a thrust-bearing between the upper ends of the cutter-shanks. In 'Complainant's Exhibit Defendant's Reamer' there are shoulders on the inside of the prongs which form a slight bearing at the upper end of the shank of the cutter to prevent the inward displacement of the shanks. However, the main portion of this is supported by the pressure of the lug at the

inward and upward end of the cutter-shank against the lower end of the tee bar. The dovetail ways 4² on the cutters of 'Complainant's Exhibit Wilson Patent' engage in the body with shoulders 2", which shoulders are parallel to the axis of the underreamer body. In Complainant's Exhibit Defendant's Reamer Type 'F' the shoulders on the shank of the cutter bear against upwardly and inwardly inclined dovetailed ways on the insides of the prongs of the underreamer body. The bearing-faces 9 at the lower ends of the prongs on the underreamer shown in 'Complainant's Exhibit Wilson Patent' are inclined upwardly and outwardly, while those shown on Complainant's Exhibit Reamer Type 'F' are parallel. On the shank of the cutter of Complainant's Exhibit Defendant's Reamer Type 'F,' at the lower end of the shank where the same joins the body of the cutter, and outside of the dovetailed ways on the shank, are auxiliary dovetail ways which extend upwardly for a distance of about one inch in this exhibit. These dovetailed ways do not appear on the cutters of 'Complainant's Exhibit Wilson Patent Drawings.' On the back of the shank of the cutter or inside of the same is a notch with a short downwardly and inwardly inclined plane at its lower edge, and its upward edge is an inwardly inclined plane which is cut in the back of this cutter for the purpose of preventing it collapsing over the inserted block which rests on the bottom bolt and also upon the slight inward shoulders on the lower ends of the prongs. No such notching appears on 'Complainant's Exhibit Wilson Patent Cutters.'

Q. 240. Now, what is the function of the detach-

able block held in place by the detachable bottom bolt in Complainant's Exhibit Defendant's Reamer Type 'F'?

A. This block is for the purpose of forming an extension of the bearing-faces at the lower ends of the prongs in the underreamer body.

Q. 241. Please state what effect upon the method of use and operation of this reamer will be produced by the removal of said detachable block.

A. None whatever. The underreamer will be as operative without the block as it is with it.

Q. 242. What is the purpose of the provision of this block by the manufacturer of this underreamer, as you make out?

A. It is undoubtedly for the purpose of differentiating this underreamer from the Wilson underreamer by attempting to make the bearing surfaces on the lower ends of the prongs of the underreamer continuous, while in the case of the Wilson underreamer they are separate and distinct. The block can be placed in position only with difficulty, and after the lower end of the underreamer body is worn by repeated contact with the stone and drillings in the bottom of the hole, it would probably be very difficult to extract the block from the lower end of the reamer body and would likely be next to impossible for the drillers in the field to replace the same after it has once been extracted.

Q. 243. In your previous testimony in this case reference has been made to that portion of the Double underreamer or the underreamer of the Union Tool Company, defendant herein, namely, at the lower portion of the body of such reamer, as the hollow-slotted

extension, such as is shown in 'Complainant's Exhibit Improved Double Reamer and Cutters.' Do you find any such hollow-slotted extension in Complainant's Exhibit Defendant's Reamer Type 'F'?

A. No, sir.

Q. 244. Do you or do you not find in the detachable block at the lower end of the body of this last-named reamer, Type F, both a hollow and a slot?

A. No, sir.

Q. 245. What do you find there?

A. Simply a horizontal hole through the block.

Q. 246. Does the tee bar or spring-actuated rod, or any part thereof, play through this detachable block, or does it not?

A. No, sir. Probably the lowest limit of the spring-actuated rod may butt against the block. This action is similar to that taken in the old hollow-slotted extension reamer by the key butting against the lower end of the slots in the hollow-slotted extension.

Q. 247. Which keys do you refer to?

A. The loosely mounted key passing through the spring-actuated rod of the reamer, 'Complainant's Exhibit Double Improved Reamer and Cutters,' like that used in this type of reamer.

Q. 248. And what is the function of that key?

A. The key was to support and attach the cutters to the spring-actuated rod.

Q. 249. Now, referring to the key in Complainant's Exhibit Defendant's Reamer Type 'F,' which you have located as being held in holes or openings in the body and passing through a slot in the spring-actuated rod, have you ever seen any such key in any other type of

underreamer for taking the pressure at the lower end of the spring surrounding the spring-actuated rod?

A. Yes, sir.

Q. 250. In what other type of underreamer?

A. In the Wilson underreamers as manufactured by the Wilson & Willard Manufacturing Company.

Q. 251. For how long a period of time?

A. Since the spring of 1911.

Q. 252. When did you first see such a key embodied in the construction of a reamer known by you to have been manufactured by the defendant Union Tool Company?

A. In this Exhibit Complainant's Exhibit Defendant's Reamer Type 'F' when it was brought into the shop of the Wilson & Willard Manufacturing Company about three months ago.

Q. 253. Do you know whether any letters patent of the United States have issued for an underreamer disclosing and claiming such a key in combination with the other parts and features?

A. Yes, sir. I have seen the patent drawings in the Patent Gazette, and also copies of the patent as forwarded from the patent office and issued to Robert E. Bole for such a key device as applied to an underreamer.

Q. 254. Do you know this Robert E. Bole?

A. Yes, sir.

Q. 255. How long have you known him?

A. Since 1906 or seven.

Q. 256. Did you, or did you not, meet him frequently during the period of time since then?

A. Since the fall of 1908 until April of 1912 I met

him quite frequently at the shop of the Wilson & Willard Manufacturing Company, where in the early part of that period he was employed as a machinist, and later on, when he was connected with the Bole Pump Company, in which Mr. Willard was interested, and for which the Wilson & Willard Manufacturing Company built the Bole oil well pumps.

Q. 257. Has said Robert E. Bole any business relations at the present time with the Wilson & Willard Manufacturing Company?

A. No, sir.

Q. 258. When did he sever those relations?

A. Arrangements were made by a settlement on February 1, 1913, and later on our business relations were severed about April, 1913, the Bole pump business at that time being moved away from the Wilson & Willard Manufacturing Company's shop.

Q. 259. Who, if you know, first devised such a key as that patented by said Robert E. Bole and shown in 'Complainant's Exhibit Defendant's Reamer Type F'?

A. Mr. E. C. Wilson.

Q. 260. From whom, if you know, did said Bole obtain his knowledge of said key?

A. Directly or indirectly from Mr. E. C. Wilson.

Q. 261. Do you know whether any person other than said Robert E. Bole holds any interest in such Bole patent covering such key?

A. If I remember correctly, a one-half interest in that patent is assigned to Mr. Edward Double, president of the Union Tool Company of Torrance, California.

Q. 262. That is, the company defendant in this case?

A. Yes, sir.

Q. 263. Did said Bole ever make any contention to your knowledge that he had any interest whatsoever in any invention attaching to such key prior to the time he severed his relations with the Wilson & Willard Manufacturing Company?

A. No, sir. In the frequent conversations had between Mr. Bole and myself between the time the key was gotten up by Mr. E. C. Wilson and the time that relations were severed with Mr. Bole, reference has frequently been made by myself to the invention of this key by Mr. E. C. Wilson, and no statement to the contrary was ever made by Mr. Bole.

Q. 264. At the time of the settlement you referred to as between the Wilson & Willard Manufacturing Company and said Bole, about the first of February, 1913, was anything said with relation to such key?

A. Yes, sir.

Q. 265. What, so far as you know?

A. I believe in January of that year Mr. E. C. Wilson received a letter, which I saw, in which Mr. Bole claimed to have been the original inventor of that type of key. At a conference on the morning of February 1 of that year, prior to the arrangement of the terms of settlement, in the office of the Wilson & Willard Manufacturing Company, there being present E. C. Wilson, Robert E. Bole and myself, and, I believe Mr. A. G. Willard, I turned to Mr. E. C. Wilson and said, 'How about this underreamer key business?' Mr. Wilson turned to Mr. Bole and said, 'Yes, Bob,

how about this key business? What are you going to do with that?' Mr. Bole said, 'You needn't worry about that; I will do nothing further with it.'

Q. 266. What was the general nature of that letter written to your brother during January, 1913, to which you have referred? That is, what attitude did it reflect on the part of Bole, the writer?

A. In this letter Mr. Bole spent most of the letter recalling instances which had happened, and stating that he wished nothing further to do with Mr. E. C. Wilson in a business way except in one regard, and that was in regard to his claim to being the inventor of this underreamer key.

Q. 267. Had Mr. Bole, to your knowledge, ever had any dealings with said Edward Double, president of the Union Tool Company, prior to this time?

A. Not to my knowledge; no, sir. In fact, he had repeatedly expressed his opinion of Mr. Double and the methods of the Union Tool Company in no uncertain terms.

Q. 268. What was the nature of such opinion?

A. He didn't like their methods of doing business did not think their manner of manufacturing other people's articles without license was right.

Q. 269. Since that time has he had any dealings, to your knowledge, with said Edward Double or the Union Tool Company?

A. Yes, sir. At the termination of the relations of the Wilson & Willard Manufacturing Company and Mr. Bole, Mr. Bole made arrangements with Mr. Double to have the Bole pumps manufactured at Torrance, California, at the plant of the Union Tool Com-

pany, of which Mr. Double was president, and to that end he purchased from the Wilson & Willard Manufacturing Company a liner boring-machine for boring the liners for Bole pumps, and had the same shipped to Torrance, to the plant of the Union Tool Company. I happened to be in the plant of the Union Tool Company at Torrance, California, when this machine was brought in to the plant. Some time after that, however, he ceased having these manufactured at Torrance, and established a plant on Santa Fe avenue, in the city of Vernon, which adjoins the city of Los Angeles, and had the liner boring-machine and other apparatus brought to that plant, where, later, I saw the same. He has testified for Mr. Double in a suit which the Union Tool Company has pending against the Wilson & Willard Manufacturing Company.

Q. 270. When the detachable block is in place and held in place by the bottom bolt in Complainant's Exhibit Defendant's Reamer Type 'F,' what is the effect produced upon the expansion and collapsion action of the cutters or bits?

A. It merely tends to assist the action caused by the shoulders on the lower ends of the prongs of the under-reamer body in the expansion and collapsion of the cutters.

Q. 271. What is the function of this key when in place in this reamer?

A. This key supports the lower end of the spring when the parts in the reamer are all in working position, and also limits the downward movement of the spring-actuated rod by the contact of the upper edge of the slot in the spring-actuated rod coming in con-

tact with the upper edge of the key. I now find that by measurement this will not permit the lower end of the spring-actuated rod to come in contact with the inserted block.

Q. 272. So that that block and bottom bolt which holds it in place are for what purpose?

A. For the prevention and loss of the parts out of the underreamer body in case the spring-actuated rod or key are broken.

Q. 273. And as to the block considered by itself when in place?

A. It simply forms an extension of the bearing-faces at the lower ends of the prongs or forks at the lower end of the body."

The testimony last previously quoted is to be read in connection with this testimony, as the various advantages incident to co-operation and co-action of the several parts and features, in the expansion and collapsion of the cutters, the imparting of inthrust and upthrust and outthrust, the prevention of rotatory action, prevention of "key-holing" or "key-seating," the provision of a more effective and extended cutting zone and action of the cutters, provision of more stock in the cutters to "dress out,"—all are present and effective and pertinent in all of the infringing types of reamers, the "Improved" and Types "D," "E" and "F."

It will be seen by reference to pages 574-576 of the record that appellant injected into the proceedings on proofs the alleged Bole invention, being the reamer combination including the key for holding the lower end of the spring as found in the Type "F" infringing

reamer. We refer to this episode of the infringing transactions, from time to time, in this brief, because it strengthens our contentions as to the piratical *intentions* and acts of appellant in and about these infringing underreamers. It remains at this point only to be said that after the issuance of letters patent to appellee's assignee, for this key combination, as hereinabove recited, action was brought pursuant to U. S. Revised Statutes, section 4918, whereupon the trial court ordered such Bole and Double patent cancelled, as having been surreptitiously obtained; all pursuant to the sense and effect of the decision of this Honorable Court in *Wilson et al. v. Double and Bole*, 227 Fed. 607, *supra*.

Important Innovation in the Reamer Art Produced by Wilson.

A careful review of the testimony in this case, heretofore referred to and to which further reference will hereinafter be made, and a careful examination of the patent in suit and the contrasting of the same with the prior art, makes it clear that the Wilson invention here accomplished a radical revolutionizing of the underreamer art, and not, as in some respects might be inferred from the opinions of the Honorable Trial Judge, a *modification* of the Double underreamer construction. We will not now concern ourselves with the one feature of the Wilson invention which permitted a close collapshion of the cutters between the prongs, but concern ourselves with the other important features which attach to the invention as appropriated by the appellant. Let us summarize these leading features briefly:

First, Wilson solved the problem of making a reamer with bottom or end cutters, namely, cutters disposed for operation at the lower end of the body, in which proper expansion and collapsion could be produced and intrust, upthrust and downthrust provided for more efficiently than theretofore; and in which the underreamer parts and members could be assembled at the bottom, in an open mouth; and in which the lower end of the reamer body could be remachined, to extend the life of the underreamer; and further in which a solid tee or cutter-carrying "cross" could be employed, due to the open mouth formation at the bottom of the reamer body.

What is to be borne in mind in these connections is that all of these highly advantageous and meritorious and efficient features and characteristics were made possible by the Wilson invention, and it required a completely novel underreamer conception in order to accomplish so many desired and hitherto unattained features and characteristics all in and by means of a compact, strong, operative and efficient combination.

Second, the Wilson invention in permitting the use of such fixed tee in place of a detachable cutter-holding part or key such as found in the Double patents 1, 2 and 3, made it possible to eliminate one of the most serious weaknesses in the Double underreamer, namely, that weakness occasioned by the slotting through the Double cutters to produce the key sockets or eyes in which the detachable cutter suspending key was seated, such key being driven through such pockets to assemble

the cutters with the rod. This "tee" is found in Type "F."

Third, the Wilson invention permitted the use of cutters the bodies of which are of maximum width, producing, first, greater resistance to wear and abrasion in the hole; second, maximum width or extent of cutting edges and greater reaming performance per stroke; third, maximum amount of stock to be used in dressing out the cutter bodies in sharpening the same; fourth, a satisfactory and indispensable bracing of the cutters against the body of the reamer both to impart inthrust and to prevent rotatory action and consequent strain upon and breakage of the dove-tails or ways or shoulders upon the cutter shanks and the body; fifth, the prevention of "key-holing," or "key-seating," or the cutting of channels in the formation to be underreamed rather than complete reduction or cutting away of the shoulders or wall portion to be reamed.

Fourth, with respect to the solid tee or integral tee and rod, the Wilson invention, including the provision of the open mouth at the bottom of the reamer body, permitted the use of such heavy strong tee and its rod and their introduction within the mouth of the underreamer, with all the attendant advantages, including the elimination of the objectionable and dangerous features present in the Double underreamer and consisting in the enlarging by wear of the hole in the rod in which the key was seated, so as to cause lost motion and permit the cutters to play upon their support at the cutter key, resulting in an unequal presentation of the cutters to the shoe at the lower end of the casing,

whereby the cutters frequently became jammed in the shoe, requiring either that the whole string of casing be withdrawn, to remove the reamer from the hole, or that one or both cutters be stripped from the reamer and lost in the hole if sufficient strain was resorted to in order to forcibly trip the reamer or collapse it into the casing.

Fifth, the open mouth formation of the Wilson reamer likewise permitted the use of the detachable safety bolt II at the bottom of the fork or bifurcated formation, such safety bolt preventing the cutters from dropping and being lost in the hole in case breakage took place in the cutter-supporting rod or the tee thereof; and such safety bolt in turn, by its detachability, permitting the parts of the underreamer to be assembled at the open lower mouth thereof.

Sixth, the provision of a detachable holding means or seat for the lower end of the spring of the cutter suspending rod, such as the block 7 or the key employed in the Wilson exhibit reamer and the Type "F" infringing reamer, in place of the fixed shoulder for the lower end of the spring in the Double patented reamers, permitted the whole underreamer body to be made in one piece, eliminating the time-consuming, weak, dangerous and readily breakable middle joint or "sub," which is found in Defendant's Exhibits Double Patents; and which permitted the body of the underreamer and the other parts thereof to be removed and reassembled at the lower end of the reamer. These middle joints or subs are tubular or hollow and weaker than the usual joint found at other portions of the string of tools.

All of the above features, characteristics, advantages, benefits and elements and parts are found embodied in the infringing underreamers of appellant, including Type "F," and the Type "F" reamer includes each and every of the same. The opinion of the Honorable Trial Judge rather indicates that the appellant has appropriated possibly only one-half of the invention of the patent in suit and the various features and merits thereof. We believe that Your Honors will increase this percentage in view of the statement just made, and the further statement that the only and single feature of the Wilson invention which the defendant did not appropriate was the collapsion of the cutters between the prongs. This is an added reason for Your Honors to determine here and upon this appeal, irrespective of the prospective cross-appeal, that any limitation of the findings in the decree of the lower court would be a further subtraction from the real findings of infringement to which the appellee is entitled. To fail to affirm such decree as to each of claims 9 and 19 would be to cut away from under the appellee part of the equitable and legal support to which, as we have above pointed out, he is entitled, not in toto, but only in a partial apprehension of the extent to which the claims of the patent in suit have been infringed. When we consider to what range and extent appellant has imitated, robbed, appropriated and pirated in its infringement, all the more reason appears for jealously safe-guarding to appellee that modicum of finding of infringement which appears in the decree of the lower court. While the claims 9 and 19 found infringed are comprehensive combination claims, nevertheless the rights of appellee

under his numerous claims, found valid and unanticipated, should not be diminished or imperiled by any further judicial process of restriction. To do so would possibly be to throw open the door to appellant so as to permit further flagrant and extensive invasions of the broad and substantial territory lying within the meets and bounds of Wilson's invention.

Right here we wish to invite Your Honors' attention to the ingenuity involved in the inventive conception of the patent, which provided, in one form, for an open-mouth underreamer body with a central cavity within which assembling of the parts could take place (as in the Type "F" of defendant), and likewise and in the face of the provision of such central cavity further provided for a more efficient, strong, safe and effective expansion and bracing of the cutters than in the prior art. The very presence of such central cavity flies in the very face of the teaching of the prior art, and particularly of the Double patented reamers, and *invites* (as its first suggestion) weakness in the other relations and co-actions and structures or parts. The cavity is right in the path of play of the expanding or contracting zone of the cutters and in the zone of cutter service. Were a road engineer to state that while excavating a great central ditch in the road, he could make a stronger and safer road, with which vehicle wheels would have better tractive engagement and which vehicles might traverse with greater stability and resistance to overturning, he would be scoffed at—until he proved it as Wilson has done in an analogous mechanical and physical case. This central excavation or cavity is clearly present in defendant's Type "F"

reamer, with the added advantages pertinent to assembling at the bottom and remachining, and the properly braced relation between the cutters and body is as equally present there as it is in the other infringing reamers of defendant. Prior to Wilson the idea was to expand entirely by inwardly directed shoulders or surfaces entirely under or within the bodies or shanks of the cutters. Wilson conceived the provision of the lateral shoulders and the co-operating lateral surfaces upon the body for expansion, collapsion, inthrust and prevention of rotatory action and the like, with the attendant advantages of wider cutting area and the like. In spite of all above said, the ingenuity of the invention was such that all of these other attributes and qualities, including greater strength, resistance to rotatory action, great cutting area, etc., were obtained to a degree hitherto unapproached in this art. It was all accomplished by a complete rearrangement and disposition of features and material, *so that it may properly be said that the Wilson patent stands at the head of an entirely new family or order of underreamers.* This is not the less true because we find in such prior reamers as the Defendant's Exhibit Double Patent No. 3 spaced stub projections 3 and 3' for supporting part of the underreamer body; nor because we find in Defendant's Exhibit Jones Removable Bowl Reamer spaced ways for cutters, *surrounded by a bowl with which the cutters have to co-operate in expansion and collapsion.* The ingenuity of the Wilson invention had it that nothing aside from prongs and cutters and upthrust on the body was required in all of the underreamer expanding, collapsing and working actions and

strain resistances. No bowl was required and no part of the body had to be removed in order to assemble together the cutters and other features. In the Jones Removable Bowl reamer we will find that the assembling had to take place at the upper end of the hollow body after detachment of a "sub" or joint, inasmuch as the spring surrounding the rod could not be entered between the spaced ways at the bottom of the reamer. In order to set up the nut at the upper end of the spring the "sub" or joint had to be removed, even had it been possible, which it was not, to introduce the spring from the bottom of the reamer. In the Defendant's Exhibit Double Patent No. 3, when the parts had once been assembled and the pin 22 driven into place, there was to be no more assembling of the parts of the body and the other features at the lower end of the body. In fact, there is no indication from this patent that the parts were ever to be assembled at the lower end of the body, for the specification does not even refer to the pin 22 which holds the parts together as being removable after once put into place, nor does it refer to assembling or disassembling the parts in any manner whatsoever. Manifestly the spring and rod were to be introduced at the upper end of the body, for which operation it was necessary to remove the sub or joint clearly shown in fragment in figure 3 in the drawing. In other words, neither this Double Patent No. 3 nor the Jones Removable Bowl reamer, nor any other prior thing, suggests in any respect the teaching of the invention as to mode and method of assembling and disassembling, and this is evident from the inspection of this Double Patent No. 3 type reamer

offered in evidence in these reamer suits. The pin is shown fixedly in place and impossible of removing. *And this is as far as the prior art goes, with the exception of the O'Donnell and Willard underreamer, in which it was necessary practically (or impractically) to take the reamer body apart in order to disassemble its features.* With the Wilson invention no "sub" or joint had to be removed, and no stationary wall or hollow slotted extension or body part whatsoever had to be displaced or disturbed in the quick and ready disassembling of the parts as for removing the cutters for sharpening. *And no one of these prior reamers could be remachined at the lower end, as that would cut away the spring-holding shoulder.* Inasmuch as these leading and important features have been appropriated by the appellant in Type "F" underreamer, we urge that infringement of the Wilson patent is more forcibly and extensively shown than was appreciated by the Honorable Trial Judge.

The Depositions of the Witnesses Griffin and Knight, Particularly on Cross, Supports Our Contention as to Want of Any Anticipation of the Wilson Invention.

To show the importance of this invention and the actual necessity of its employment in the field to insure satisfactory underreaming and permit the carrying on of oil well drilling, we invite Your Honors' attention particularly to the depositions of witnesses Bailey [R. 439] and Pickering [R. 426]. Briefly, Bailey says that he is an oil well operator and driller by occupation, operating in the famous Fullerton fields, Orange county,

California, and is running three crews drilling and overhauling oil wells. He states he has been in the oil well industry steadily for 12 years in that territory and is general manager and president of the Olinda Land Company. He states that he has general supervision of the whole property, sometimes taking charge when the field superintendent is absent and giving full personal supervision to drilling. He says he has used the underreamers of the defendant here and also those of complainant, having first used the defendant's Double underreamer; that, at the time of testifying he had used the Wilson reamer about six months but had previously used the defendant's reamer for several years. He says he had a great deal of trouble with the six-inch Double reamer on account of the lugs or cutters breaking off, and after investigating the Wilson bought one and tried it out with the result that he probably will never use another Double six-inch reamer. He says he never lost a Wilson underreamer cutter since buying one of the Wilson reamers, but had repeatedly lost Double reamer cutters necessitating drilling them up, (that is, chipping them to pieces in the well), which he says is an expense and a loss of time and material. He says that these cutters would break off. He says that the breakage of the Double cutters was due partly to its weakness across the shank. He says as far as he knows his people have not lost or broken any Wilson cutters and had such breakage occurred it would have come to his notice. He says that he has only used the six-inch size of the Wilson reamer and as far as that goes it will be his preference in the future. This deposition shows how the complainant's reamer

superseded the reamer of defendant, with this large oil well developing interest, and it is a specific instance, in detail recital, of the many instances where the Double reamer was driven from use in the field by the Wilson reamer, as set forth in the testimony of Wilcox quoted *supra*.

The deposition of James Pickering sets forth that he is foreman of the Union Oil Company in the Orange county district, having been in the oil well business twenty-three or four years; that his work has been principally drilling wells in Ventura county and Los Angeles and Orange counties, all in California; that he has used underreamers of the Double type and of most other types and also used the Wilson reamers. He says he thinks he has used the Double reamer ever since it was gotten out and first had his experience with the Wilson reamer about two years prior to the time of giving his testimony. He says he used the first Wilson until it wore out and then got a new one. He says at the time of testifying he is using a 6½-inch Wilson reamer in the only well that his people are working on, down in Orange county. He says they never lost or broke a Wilson cutter, but in the use of the Double reamers in the smaller sizes they have broken them several times. He says that the breakage has occurred across the shank of the Double cutters, in its weakest part near the eye for the key and also down below the end in the shank of the cutter. He says his people started in with the first type of Double reamer gotten out and used all the types produced by him until his later types. It will be noted that he

experienced breakage in the cutters of the defendant's reamer Type "C," and that is a type as to which specific infringement was not urged. The later Types "D," "E" and "F," were aimed more particularly at preventing such breakage, as was the earlier Double "Improved" reamer, by providing lateral shoulders with bearing-faces 4³ upon the cutters and the extended spreading bearings 9 upon the body to co-operate with the same. Type "C," we contend, was found too weak in its cutters, and did not have the advantages of the type found to infringe, and that is why the defendant produced its later types, including Type "F" which more flagrantly infringes than any of the other types. The witness states that he never broke one of the cutters in the later Type "E" Double reamer. The questions and answers of the witness, 211 to 214 inclusive, showing the advantages of the infringing reamers, such as Types "D" and "E," over the reamer Type "C," of defendant, is as follows:

"Q. 211. I call your attention to the fact that in Claimant's Exhibit Reamer Type 'E' and also in Claimant's Exhibit, Defendant's Reamer Type 'D,' there are portions of the body extending down between the cutters and against which, portions of the body, the cutters bear; whereas, in Claimant's Exhibit, Defendant's Reamer Type 'C,' such portions are not apparent and do not appear to be present. What have you to say as to these differences with respect to cutter breakages, or otherwise?"

Mr. Lyon: Objected to as incompetent, no foundation being laid, and the witness appearing from his own testimony and statement that he has not used Com-

plainant's Exhibit, Reamer Type 'C' sufficiently to enable him to have the necessary experience therewith to answer the question, or upon which to found any opinion of value in this case.

A. You want my opinion.

Mr. Blakeslee: Whatever you have to say. [362]

A. The absence of that portion, or dovetail as we call it, would have a tendency to weaken the cutters.

Q. 212. And that would result in what?

A. In breaking the cutters, for the reason that you have no bearing in the cutters, like you have here.

Q. 213. That is, no bearing in Complainant's Exhibit, Defendant's Reamer, Type 'C.'

A. Yes, sir.

(Witness refers in his last answer to the shoulders on the body between the cutters in Type 'D' and Type 'E.')

Q. 214. And the absence of those shoulders in Type 'C' produces what effect?"

The witness in continuing testifies that he prefers the reamer with the broader cutters from the six-inch size down. He apparently inadvertently refers to the Type "C" in that connection, meaning either "D" or "E" as question 216 shows, and then states that he gets better results with the broader cutter, and the broader cutter has more material to dress out. These of course are particular features of the Wilson invention and Types "D," "E" and "F" and the "Improved," of appellant.

The witness then testifies that when a Double cutter is broken it is left in the hole and has to be "side-tracked" or fished out, causing quite a little trouble;

that sometimes you can get by it, but it causes a good deal of trouble to get broken cutters or any iron loose in the hole; that they try to fish them out and if that cannot be done they drill them out, either pounding the drill on them until they are broken up or pounded off onto the side of the well and are sucked up by the sand pump. Occasionally they are fished out.

This deposition likewise shows how the appellee's or complainant's reamer and the features of complainant's patent in defendant's or appellant's reamers superseded in important use and service the old patented Double reamer. It bears out our contention that the only serviceable and satisfactory underreamer at the present time is either the Wilson reamer or the "Wilsonized" Double reamer. In this connection there must be borne in mind the findings of the court in *Union Tool Company, et al. v. Wilson & Willard Manufacturing Company*, 237 Fed. *supra*, that the Double reamer and the Wilson reamer have practically so superseded prior types of underreamers.

We must bear in mind that the defendant's or Double reamer in assisting in so superseding prior reamer types has done so with the aid of the Wilson invention; in other words, it has been a "Wilsonized" Double underreamer which with the Wilson reamer so superseded prior underreamers. This must of necessity be read into the opinion in Union Tool Co. et al. v. Wilson & Willard Manufacturing Company, supra, because of the proofs in the case at bar, and amounts in effect to a substantiation of our contention that it is the Wilson underreamer or Wilson invention in underreamers which has crowded prior underreamers from the field

by its superiority, and by its proven title as the reamer that took the last step in the art. *Manifestly the Wilson invention of the patent in suit took the last step in the art within the meaning of the Barbed Wire Patent case*, 143 U. S.

The extensive adoption of the Wilson invention, and its necessary adoption by defendant in order that it retain its business even at the expense of piracy, and the value of the very features which defendant adopted, even without the further feature of collapsion of the cutters between the prongs, established the subject of the Wilson patent as a true invention, and a product of high ingenuity and inventive skill. The utility is apparent and was immediately recognized by the trade and users, and novelty will be apparent when the scant semipertinent prior art is dealt with.

It is not necessary to cite to Your Honors in *extenso* the authorities of this question of invention. There has been no attack made in this case on that branch of the issue, but the decision of this Honorable Court in *Bliss, et al. v. Spangler*, 217 Fed. 394, citing *Loom Co. v. Higgins*, 105 U. S. 580, and the *Barbed Wire Patent case*, 143 U. S. 275, *supra*, are worthy of passing notice, as is *Nicholas Power Co. v. C. R. Baird Co.*, 222 Fed. 933, to the effect that:

“Unusual commercial success of a patented article is entitled to great weight on the question of invention, when it is otherwise in doubt, as business ability, finely constructed machine parts, and good selling organization, cannot accomplish such a result without a basically satisfactory product, and especially is this true where other noted in-

ventors have patented articles for the same purpose which were unsuccessful.”

Also this Honorable Court has said in *Stebler v. Riverside Heights Orange Growers' Association et al.*, 205 Fed. 735, *supra*:

“On the question of anticipation, the fact that the patented device is so different from those of the prior art that it has superseded them in general use is entitled to great weight.”

The invention of Wilson was *admitted, conceded*, and highly *acclaimed*, by the general well drilling public and trade and industry, and by the infringing defendant, who found its business being swept away from it by the product of Wilson's inventive ingenuity, and turned to piracy rather than to negotiation for a license.

Defendants' Peculiar Defense Tactics.

We have in this record the deposition of one Thomas J. Griffin, commencing at record 664, to whose testimony and the testimony of the complainant commencing at record 905, in rebuttal, we call Your Honors' particular attention, inasmuch as it reflects the tactics of the defendant in this case in attempting to meet a square and open issue of infringement with underhanded and devious procedure. Griffin was closely interested with the defendant and Double in various interests and was a complainant, as the record shows, against Wilson in other litigation. We quote the testimony of Mr. Wilson [R. pp. 905-919, inclusive] as follows:

“Deposition of Elihu C. Wilson, for complainant. (Recalled in rebuttal).

Elihu C. Wilson, the complainant, having previously testified in this case on his own behalf, being resworn by the notary present, testified further, in rebuttal, as follows, in answer to questions put by Mr. Blakeslee:

Q. 274. You have testified previously in this case, Mr. Wilson?

A. I have.

Q. 275. Were you present when the deposition of Thomas J. Griffin was taken on behalf of defendant in this case?

A. I was.

Q. 276. Did you hear the entire deposition as given by him? [759]

A. Yes, sir.

Q. 277. Please state whether or not you were present at a certain conference held on the 18th of June, 1915, at room 440, Douglas Building, Los Angeles, California; and, if so, who were present at that conference?

A. There were present at that conference Thomas J. Griffin, F. A. Stephenson, W. W. Wilson and myself.

Q. 278. Please state whether or not, at that time and place with the same parties present, said Thomas J. Griffin made the following statement, to-wit: ‘I am very frank to say that for all-round purposes the Wilson reamer is better than the Double’?

Mr. Lyon: Objected to as leading, incompetent, not the proper method of proof of conversation, and as irrelevant, incompetent and not rebuttal.

Mr. Blakeslee: Attention is called to the fact that this is a proceeding on impeachment, as to this question, and is predicated upon the record of the defendant in this case.

A. Yes, sir; he made that statement.

Mr. Lyon: Defendant moves to strike the answer from the record and exclude it from consideration, upon the grounds and each of the grounds stated in the objection to the question.

Q. 279. (By Mr. Blakeslee.) In said deposition of Thomas J. Griffin the following question was asked of him: 'XQ. 446. At that same conference did you not state and did you not make the offer that for a certain sum of money you would sell certain rights, which you had, or claimed to have, to Mr. E. C. Wilson, the complainant in this case, and certain evidence which you claimed to have to support such alleged rights, and that then, if you were wanted by the defendant in this case, or Mr. Double, in order that you might testify, you could arrange to be out of the jurisdiction of this court?' What have you to say as to any [760] such occurrence?

Mr. Lyon: The same objections as noted to the preceding question.

A. That proposition is the one he put up to us, exactly. He had certain patents, he said, and patent rights, which he wished to sell and he said he had evidence in support of same which would be an absolute defense against any suit which Double could bring or had brought against us for alleged infringements of the Double underreamer patents, and stated, furthermore, that he would never testify for Mr. Double

in these underreamer cases again, that he was absolutely done with the bunch, and sick and tired of it, and that he would not under any circumstances whatever testify for Mr. Lyon in these underreamer cases again. He made particular mention of the fact that he was absolutely done with Mr. Lyon. And then he stated, furthermore, that if it would be to our interests, he would leave this jurisdiction altogether, as he wanted to go to Canada.

Mr. Lyon: We move to strike the answer, and each part and parcel thereof, from the record and exclude it from consideration, on each of the grounds stated in the objection to the question, and as the conclusion of the witness and not a statement of the conversation.

Q. 280. (By Mr. Blakeslee.) Said Thomas J. Griffin was also, in his cross-examination, asked the following question: 'XQ. 447. Did you not, at that conference, state and offer that for this same consideration, and included in your general offer, you could and would turn over to Mr. E. C. Wilson, there present, certain evidence which would prevent and preclude the Union Tool Company, the defendant herein, and its president, Edward Double, and their associates, and parties jointly interested with them, from winning any suit at present pending between these last mentioned parties and interests and Elihu C. Wilson, the complainant [761] herein, and the Wilson & Willard Manufacturing Company and their allied interests?' What have you to say as to these matters?

Mr. Lyon: Same objections as noted to the preceding question.

A. Yes, sir. I have just mentioned the fact that he stated that he had evidence, in Texas and elsewhere, which, if we desired—would pay the price that he asked—he could supply us with, and which would be an absolute defense against any suits which Mr. Double might have against us in the underreamer business. He stated that these inventions were clearly anticipated by reamers which he had used, and which reamers we could use as an absolute defense against Mr. Double. He said these reamers were available; he knew where to get them; they were in Texas somewhere, and he gave us the names of the men who had manufactured them and he gave us the names of certain shops wherein these reamers were supposed to have been made, and the names and the firms checked up with reports we have since received from Bradstreet's and Dun's indicating that such firms existed at that time and that such men were associated with those firms.

Mr. Lyon: We move to strike the answer, and each part and parcel thereof, from the record, upon each of the grounds stated in the objection to the question, and upon the further ground that the same, and parts thereof, are not responsive to the question, and are incompetent, not the best evidence, and that the same is not impeachment, not material matter.

Mr. Blakeslee: It will be understood that while we have referred to procedure on impeachment, with respect to a certain question asked of this witness this morning, it is not to be inferred that this procedure is limited in its purpose solely to impeachment, but its manifest purpose and bearing will be understood, in-

cluding its direct bearing upon the qualification of the [762] witness Thomas J. Griffin to testify as an expert on behalf of the defendant in this case, and its tendency to establish bias of said Thomas J. Griffin.

Q. 281. (By Mr. Blakeslee.) The following question was likewise asked of said Thomas J. Griffin in his cross-examination: 'XQ. 450. Did you not, at that same conference and at the same time and place and in the presence of the same parties, further state that you were sick and tired of the Double and Union Tool Company bunch, using an oath in describing them, and wanted to get away from them, and get what you could out of E. C. Wilson, the complainant herein, for what evidence, information and patent rights you could bring to said E. C. Wilson?' What have you to say as to these matters?

Mr. Lyon: Same objections as noted to the preceding question and answer.

A. Yes, sir; he made that statement to us. He contended he hadn't had fair treatment at the hands of the Union Tool Company 'bunch,' as he expressed it, and that he was sick and tired of their treatment; that they had refused to pay him royalties which were coming to him and he had about \$2500 due him then which they had refused to pay, and that he was altogether very much dissatisfied with their treatment and that he wanted to get out and get entirely free of them and get away from here altogether, and that he was willing to sell out what information and what interests he had and sell them to us and get what he could for them.

Mr. Lyon: Move to strike the answer from the

record and exclude it from consideration, and each part and parcel thereof, upon each of the grounds stated in the objection.

Q. 282. (By Mr. Blakeslee.) Said Thomas J. Griffin was also asked the following question in cross-examination: 'XQ. 453. Did you not, at that same interview, at the same time and place and in the presence of the same parties, state that you could [763] produce for said E. C. Wilson evidence that would prove that the said R. E. Bole, patentee of Defendant's Exhibit Bole Patent, perjured himself in giving his testimony in said Interference No. 37,126, and in his testimony before this same court in the suit now on trial, pending between said R. E. Bole and said Edward Double, on the one hand, and said E. C. Wilson and the Wilson & Willard Manufacturing Company, defendants, in that a certain exhibit, in evidence in both these cases, being a certain tracing purporting to show a key, with alleged witnesses' signatures thereon, and further matter, was not a genuine document, but that the alleged signatures thereon of one Fahnestock and one Grigsby were in fact forged upon said tracing—were, in fact, traced upon such tracing linen, and not traced thereupon by said parties?' What have you to say as to these matters?

Mr. Lyon: Objected to upon each of the grounds stated in the objection to the preceding question, and particularly as leading, and, if for the purpose of impeachment, upon a matter totally foreign and immaterial to any of the issues in this case.

Mr. Blakeslee: Attention is called to the fact that the record in this case, of the defendant's shows an

attempt to read into one of the infringing structures certain matter patented by said Defendant's Exhibit Bole Patent referred to in the question.

Mr. Lyon: The mere fact that the defendant may be using the invention patented in and by said Bole patent does not place said Bole patent in issue in this case, as shown by the exhibits in this case, to-wit, the records of this court in suit, No. B-19, in equity. This court has adjudicated the validity of said Bole patent in a suit in which this court had personal jurisdiction of the parties thereto, and which adjudication cannot be collaterally attacked in this proceeding, the only purpose of said Bole patent in evidence being to show that, so far as the invention therein described and patented is concerned, the use thereof by [764] this defendant has not been an appropriation of anything that was in the original Wilson patent, but a subsequent invention.

Mr. Blakeslee: We were quite responsively assuming that the defendant would in this matter attempt to show that it was acting within alleged rights in the use of this key; and the testimony under consideration pertains to the validity of such rights, and what that validity or invalidity might have been found to be had the alleged evidence purported to be within the control of the witness Griffin been placed before the court when such question or validity was passed upon.

Mr. Lyon: The objection is renewed, as the validity of such Bole patent is not in issue in this case.

A. Yes, sir; he made that statement to us. He said Bole had lied about it; that he had told him that

he, himself, Bole, had traced those signatures on that drawing.

Mr. Lyon: Move to strike the answer from the record, and each part and parcel thereof, on the grounds stated in the objection, and on the further ground that it is not responsive, and not the proper method of impeachment.

Q. 283. (By Mr. Blakeslee.) I call your attention to the following testimony given by said witness Thomas J. Griffin in the said cross-examination: 'XQ. 457. Now, as a matter of fact, did you not design or were you not responsible for the design of Complainant's Exhibit Type "F" reamer, Defendant's Exhibit in this case? A. I have previously testified fully on that matter already. I refer you to such answer, as I have no further answer to make on it. XQ. 458. Is it not a fact that you so stated at the conference on June 18th, as to which I have previously questioned you, at the same time and at the same place and in the presence of the same parties? A. I fully testified on this matter, and refer you to my previous answer. There is nothing to elaborate thereon. XQ. 459. Did you not, at that conference [765] and at that time and place and in the presence of those parties, say that you invented that Type F reamer? A. The same answer.' What have you to say as to these matters?

Mr. Lyon: Objected to upon each of the grounds stated in the objection to the preceding question and set forth in the motion to strike the answer from the record and exclude the same from consideration.

A. I don't remember definitely whether he said that or not. I do remember, however, that he stated

that he himself was the inventor of the reversible slips for rotary drive, a patent for which had just at that time been issued to Mr. Edward Double and applied for by Double personally, Double representing himself to be the sole inventor.

Mr. Lyon: We move to strike the answer, and each part and parcel thereof, from the record, on each of the grounds stated in the objection thereto, and upon the ground that the same is not responsive to the question, and immaterial to the issues in this case.

Q. 284. (By Mr. Blakeslee.) And what Edward Double did he refer to at that time?

Mr. Lyon: Same objection.

A. The party to this suit; the president of the Union Tool Company.

Q. 285. (By Mr. Blakeslee.) I call your attention to the following testimony given by said Thomas J. Griffin in said cross-examination: 'XQ. 460. At that same conference, and at that same time and place and in the presence of the same parties, did you not state that it was your belief that Dick Smith, the foreman of the Union Tool Company, invented the Double underreamer known as the "Double Improved Underreamer," being substantially Complainant's Double Improved underreamer and cutters?' What have *you say* as to these matters? [766]

Mr. Lyon: The same objection, and each thereof, as noted to the preceding question. The further objection that it is immaterial what the belief of the said witness Thomas J. Griffin was.

A. Yes, sir; he made that statement at that conference.

Q. 286. (By Mr. Blakeslee.) I call your attention to the following testimony in said cross-examination of said Thomas J. Griffin: 'XQ. 462. Did you not, at that same conference, and at the same time and place and in the presence of the same parties, say that to the best of your knowledge Edward Double, the president of the Union Tool Company, the defendant herein and the alleged inventor of Defendant's Exhibit Double Patents Nos. 1, 2 and 3, had never invened anything?' What have you to say as to these matters?

Mr. Lyon: Same objection as noted to the preceding questions.

A. Yes, sir; he made that statement, and stated that in his opinion Double didn't have the mechanical ability to make an invention of that sort, and cited, as an instance of Double's inability to grasp the mechanical action, a pump which was being manufactured at the Double shop or Union Tool Company shop, manufactured as an invention—represented to be an invention—of Double's and which pump had been giving him, Mr. Griffin, trouble in the field. Mr. Griffin was operating the pump, Mr. Double didn't understand the mechanical action of that pump, although he pretended to be its inventor.

Mr. Lyon: We move to strike the answer, and each part and parcel thereof, from the record, upon each of the grounds stated in the objection.

Q. 287. (By Mr. Blakeslee.) Who proposed this conference that we are discussing now?

Mr. Lyon: Objected to as leading, and as calling

for [767] the conclusion of the witness and not for a statement of fact.

Q. 288. (By Mr. Blakeslee—Continuing.) Add to the question: 'if you know.'

A. The conference was the outgrowth of a communication from Mr. Griffin wherein he stated he wanted to see us or have a talk with us about these patent affairs. He took the matter up with Mr. W. W. Wilson first.

Mr. Lyon: We move to strike the answer from the record, and each part thereof, on the grounds stated in the objection, and upon the further ground that it is hearsay, incompetent, not the best evidence. It appears from the answer of the witness that he has no personal knowledge.

A. (Continuing.) I might add that he was in conference with me and negotiated with me in regard to these matters before this conference, and that this conference was the outcome of the propositions which he had been submitting, and we had this conference for the purpose of ascertaining what he had to offer.

Mr. Lyon: Same motion and objections.

Q. 289. (By Mr. Blakeslee.) I call your attention to the following question asked of said Thomas J. Griffin on said cross-examination: 'XQ. 466. At that same conference, and at the same time and place and in the presence of the same parties, did you not offer to furnish proof, as part of your offer, in consideration of the said sum of \$10,000, which you requested said E. C. Wilson to pay you, that with respect to the matter of this Defendant's Exhibit Bole Patent testimony given by the witness Heber and testimony given by the

witness Adams was false, in that the said Robert E. Bole made sketches of the key involved in the controversy concerning said Bole patent for both said Heber and said Adams immediately before they testified in said inference No. 37,126, and that said sketches were so made for said Heber and Adams by said Bole in the presence of defendant's counsel in this [768] case and in your own presence?' What have you to say in regard to these matters?

Mr. Lyon: The question is objected to as leading, as not the proper method of proof of conversation, and, if for the purpose of impeachment, not the proper method of impeachment and as to an immaterial matter having nothing to do with the issues in this suit.

A. Yes, sir; he so stated.

Mr. Lyon: Move to strike the answer from the record and exclude it from consideration, upon each of the grounds stated in the objection to the question. And it will be understood that each of these motions to strike out and exclude from consideration are submitted at the final hearing of this cause upon the submission of the cause without the necessity of any further notice or motion. This applies to all motions of similar character heretofore made or hereafter made in this case on behalf of defendant.

Mr. Blakeslee: It is understood, likewise, on behalf of complainant, that the objections noted of record are to be understood as being made, without the necessity of repetition, before the submission of the case, and without further notice, to be ruled upon by the court upon such submission, either as extant in the record

or as elected to be urged by counsel for the complainant.

Q. 290. Reference has been had in your testimony this morning to a certain interference, No. 37,126, pending between yourself and Robert E. Bole, concerning the original patent of Defendant's Exhibit Bole Patent, offered in this suit. To your knowledge, has there been any adjudication on the matter of said interference in the patent office?

Mr. Lyon: That is objected to as immaterial and irrelevant to the issues in this case, and as an attempt to impeach collaterally the judgment and decree of this court, and as incompetent, not the best evidence, not the proper method of proof.

A. Yes, sir; there has been. [769]

Q. 291. (By Mr. Blakeslee.) How many such decisions, if more than one?

Mr. Lyon: Same objection.

A. Two decisions.

Q. 292. (By Mr. Blakeslee.) And in whose favor have both or either of such decisions been, as between yourself and said Robert E. Bole?

Mr. Lyon: Same objections.

A. Both decisions were in my favor.

Q. 293. (By Mr. Blakeslee.) And both decisions found you to be the true, original, sole and prior inventor of the exhibit of said Bole patent?

Mr. Lyon: Same objections, and as leading.

A. They did."

THAT EITHER THIS WITNESS, UPON WHOM DEFENDANT APPARENTLY PLACED GREAT RELIANCE IN QUASI-EXPERT TESTIMONY (AND TESTIMONY WHICH SHOWS SELF-IMPEACHMENT OF THIS WITNESS AND SELF-CONTRADICTION AND CONFUSION WHICH WOULD BE LUDICROUS WERE IT NOT EITHER PITIABLE OR DESPICABLE)—*either this witness brought about this conference with complainant and his general counsel and others as a traitor to the defendant's camp, or as a spy on their behalf, is evident from this testimony. If we believe what Griffin said at that conference, we certainly cannot believe his testimony, and we must believe that the defendant interest with its Double and Bole and like tentacles, has been playing true to form in its infringement found in this case and in the pitiable, if not contemptible defense and defendant's tactics presented and displayed in certain respects in this case. In this testimony we get another angle of the Bole patent controversy which Your Honors effectively brought to an end in Wilson et al. v. Bole and Double, 227 Fed. 607.*

Ordinary Plain. Straight Infringement Is Piracy, but It Is Not Every Patent Pirate Today That Lives up to All the Traditions of Old-Time High-Sea Piracy. We Find the Stage-Setting of Such Complete in This Case and the Related Bole Case.

THE WILSON INVENTION, WHOLLY NOVEL IN PARTS, FEATURES AND COMBINATIONS THEREOF.—THE PRIOR ART.

When we come down to a consideration of the meager prior art or any part thereof pertinent to the

Wilson invention, the opinion of the honorable trial judge will be found thoroughly correct as to any alleged anticipating patents and devices affecting the patent in suit here and preceding the Double invention of the patent in suit in *Union Tool Co. v. Wilson & Willard Manufacturing Company*, *supra*, being Defendant's Exhibit Double Patent No. 1. This patent was issued in 1903. The same is true as to those succeeding Double and preceding Wilson. We quote from the opinion of the court in these respects:

"In pleading anticipation, the defendant in these two causes has, insofar as a number of the alleged anticipating patents and devices set up are concerned, necessarily taken a position inconsistent with its contention in cause #1540. This, of course, is permissible, but the court having already held in the decision this day filed in 1540 that Wilson's device infringed the Double patent and that the Double patent was not anticipated by the prior patents mentioned, it follows that, in so far as the alleged anticipating patents and devices preceded the Double invention in point of time, necessarily, none of them anticipated the Wilson invention. In so far as the patents issued and the devices designed and used prior to the Wilson application for patent and not shown to be prior to the Double invention are concerned, no anticipation is found."

The *other* defenses as to novelty have been thoroughly disposed of in cross-examination by complainant of defendant's witnesses, Griffin and Knight, and really need but slight review here. As the opinion of the honorable trial judge indicates, the principal de-

fense as to anticipation outside of the Double invention was apparently the so-called Jones removable bowl reamer. We quote from the opinion of the court as to this device:

“The so-called ‘Jones Removable Bowl’ reamer, defendant also contends, is an anticipation of the patent in suit. *Only a very few machines of this design were made.* These machines were manufactured and sold after the time of patenting Double’s device and more than two years before the application of Wilson for the patent in suit.

In the Jones removable bowl reamer, the extension is forked to form bearings, but the enclosing bowl, which takes the place of the enclosing recesses or pockets of the Double and Wilson—in which the cutter-shanks are seated—is unbroken by any slotting, as occurs in the Double and Wilson to allow the shoulders on the same to contact with the foot of the casing to cause the collapse of the cutters.

This removable bowl reamer anticipated the forking of the lower extension of the patent in suit in so far as permitting the rod integral with the head or tee thereon—which carries the cutters—to be inserted from the bottom is concerned. These forks in the removable bowl reamer also form ways for the cutters; but the forks in this reamer were not joined at the bottom in any way. The shanks of the cutters bore at all times against the prongs and did not collapse between them. The bearing at the end of the prongs afforded the inner face of the cutter-head in the removable bowl reamer does not anticipate the bearing afforded by the ‘lug’ face of the patent in suit, for, in the removable

[66] bowl reamer, the bearing afforded is considerably less across than the diameter of the extension of the reamer body, or bowl.”

This device, as the record shows, in the meager testimony of the Jones witnesses, was only an ephemeral or sporadic attempt to do something which never “arrived.” It and the O’Donnell and Willard reamer relied upon “bowls” to hold the cutters in place, as without such bowls the cutters would fall out. The outthrust was taken by these “bowls” instead of by ways 3 on the body end or prongs. The combination of parts is not the same, and there is no similar co-action of parts and features. Neither complainant nor defendant has any such “bowl.” Only a very few were made and the device was entirely superseded by the earlier Double reamers. Furthermore, within the doctrine of *Stebler v. Riverside Heights etc. Co.*, 205 Fed., *supra*, it would require complete reorganization, modification and reconstruction of this device to make it over into a Wilson underreamer, or even into an infringing underreamer of the defendant. The action was entirely dissimilar, and the construction entirely dissimilar. Neither this Jones reamer nor the O’Donnell and Willard reamer has shouldered “prongs” with ways and cutters with shoulders on the ways. A bowl or unslotted continuous-wall mouth was depended upon to confine and co-act with the cutters to produce and control the expansion and collapsion of the cutters, and such principle and construction is the direct antithesis of the open mouthed formation of the spaced pronged Wilson reamers of the Wilson patent and of

the hollow slotted and open-sided formation of the Double reamers, or infringing reamers, or the pronged and open-sided Type "F" infringing reamers. This Jones reamer has no lugs 2' sharply demarked from the ways 3 to produce upthrust shoulders 10' above them. While this reamer permitted the rod and integral head or tee to be inserted at the lower end of the body, it will be found that the spring could not be so inserted, and that there is a "sub" or middle joint or screw cap on the upper end of the body which is provided for assembling the rod and spring and body and cutters, and for setting up the nut to adjust the compression of the spring. The reamer *could not* be disassembled without lifting off the "sub" or intake joint, as they rest on the rod above the spring, which must first be removed to free the rod from the spring. The rod or stem had to be put in from below and the spring from above after removing the cap or joint. This reamer could not be assembled and adjusted without the use of such middle joint, which is the antithesis of the teaching of the Wilson patent in these respects, and the antithesis of the following of that teaching as reflected in the defendant's infringing Type "F" reamer. While there are spaced ways for the cutters in this Jones removable bowl reamer, they are not the ways 3 of complainant's patent or reamer or of defendant's infringing reamers, for as set forth, for instance, in claim 9 of the patent in suit, the Wilson invention requires that there be shoulders on the inner faces of the prongs to form cutter-ways, and that the cutters be mounted between the "prongs" and have shoulders inside the fork or between the prongs in the

ways. *The cutters in the Jones removable bowl reamer merely rest upon the spaced ways and are not confined against outthrust by any ways, and the little stops at the tops of such ways and at the outer portions thereof are in no sense shoulders on the inner faces of the prongs, and do not co-act with any shoulders whatsoever on the cutters, nor particularly with any shoulders so co-operating therewith as to permit the cutters to be mounted between the prongs of a fork and held there against outthrust.* On one particular side of the Wilson invention, this Jones reamer is of course utterly lacking in suggestion, namely, on the side pertinent to collapsion of the cutters between the prongs. As the trial court says, the spaced ways of this Jones device are devoid of the “lug” elements of the patent in suit, important elements of claim 9 of the patent found infringed, namely, the lugs 2' of the patent in suit. We shall see that this element was entirely and radically novel with Wilson, and appropriated *in toto* by defendant, who did not get his teaching from the prior art in such respect, for the prior art was silent thereupon. *The spaced ways of the Jones removable bowl reamer do not terminate in any definitely organized, formed and arranged portions whatsoever, bearing any similitude in form or function to the “lug” elements of the patent in suit.* So we have not in this Jones reamer an anticipation of the Wilson invention in any one of the three aspects in which “prongs” may be considered, as above marshalled, either to permit collapsion of the cutters between the prongs, or to permit complete assembling of the reaming features at the bottom of the reamer body, or to serve as body por-

tions or extensions for carrying the “lug” elements or element and the ways. And of course we do not have anticipation in any respect of the combinations of the claims 9 and 19 found infringed, for the mode of operation as well as the construction is clearly, as above pointed out, entirely dissimilar. The shoulders forming the ways 3 for the cutters in the Wilson patent and in the infringing reamers prevent outward displacement of the cutters and take the outthrust. No such shoulder action is possible in this Jones removable bowl reamer, the bowl mouth being relied upon in such respect, and such bowl mouth producing an entirely different operation of the cutters in collapsing and expanding, namely, different from the operation found in the Wilson and infringing reamers; because, as the trial court says, such bowl mouth is unbroken by any slotting to allow the shoulders on the cutter shanks to contact with the shoe or the casing to cause the collapse of the cutters. *Take the bowl mouth away from the Jones reamer and the reamer would be inoperative. No such bowl mouth is found in the Wilson patent, nor is it found in the infringing reamers. The Jones reamer is thus essentially different, and cannot be given any anticipatory consideration in this case, as the trial court found. It was a mere abandoned experiment.* Many further authorities might be quoted from, and cited, as to the non-pertinence of the alleged anticipatory structures and patents set up by defendant. Such authorities, including *Topliff v. Topliff*, 145 U. S.: *Yesbera v. Hardesty*, 166 Fed. 120, 125, *supra*, and others, too well establish the rule that piecemeal anticipation, or anticipation requiring reorganization, are

to be given serious consideration in weighing novelty. See also *Gormley v. Jeffrey Mfg. Co. v. Stanley Cycle Mfg. Co. et al.*, 90 Fed. 280, in which it was said:

“Of course the claim cannot be defeated by showing that each of its elements, separately considered, was old. The defendants must prove that the combination was old. If they fail in this, they fail irretrievably.”

And see the decisions of this Honorable Court in *Parker v. Stebler et al.*, 177 Fed., and *Los Alamitos Sugar Co. et al. v. Carroll*, 173 Fed. 280.

And Wilson produced NEW elements, such as the lugs 2'. The record shows [Qs. 340, 341, p. 949] that Wilson never heard of this Jones “bowl” reamer until just before he testified in this case. So he was an original inventor as to anything possibly pertinent in this prior device.

Passing to the other defenses in attack on novelty, the court has found in the opinion that the O'Donnell and Willard patent No. 762,435 was not anticipatory either of the invention here nor of the Double invention. Clearly this patent shows no “prongs” in either of the three cases hereinabove mentioned as embodying the Wilson invention, for there are no such “prongs” between which cutters can collapse, there are no such “prongs” as permit assembling at the open bottom of a reamer, and there are no such prongs carrying lug elements or ways with which shoulders on cutters contact. Likewise, there are of course no cutter ways 3 nor cutters mounted between prongs and having shoulders 4² inside the fork of the prongs in the ways, which

shoulders co-operate with such cutter ways, as called for by claim 9 more specifically. This O'Donnell and Willard device has a *hollow slotted extension* of the patented Double reamer type, and the cutters have each an enlargement at its lower end for engaging with the shoe of the casing to produce collapsion of the cutters. This reamer could of course not be remachined from the bottom any more than it could be assembled from the bottom, the teaching being that the whole lower end of the body has to be unscrewed to take the reamer apart, and this is as objectionable as the requirement to unscrew a "sub" or middle joint or screw cap at the top of the body. No suggestion of the Wilson invention is found here. There is no body extension with lugs 2' of the Wilson patent, and no cutter with lateral shoulders having bearings 4³ to co-operate with any such lugs.

We quote here the testimony of W. W. Wilson:

Redirect Examination

"By Mr. Blakeslee:

Q. 119. In the cutters of this purported O'Donnell and Willard patent No. 762,435, how many shoulders do you find on the cutters at the lower ends of the cutters?

A. There is one large semi-circular shoulder extending around the outside of the cutter.

Q. 120. What is the purpose of that shoulder as you make it out from the disclosure of this patent?

A. To take the up-thrust of the cutter by being in contact with the underreamer body.

Q. 121. Please compare the general shape or out-

line of the shank of each of these cutters with the shank of the cutters of Complainant's Exhibit "Wilson Patent," taking a view of the inner face of the same.

A. The inner face of the Wilson cutter shank is a rectangular piece, while the inner face of the cutters shown in the patent No. 762,435 has parallel top and bottom edges and upwardly and inwardly inclined lateral edges.

Q. 122. Now, projecting the lateral edges of one of these cutters downwardly toward the cutting edge of the cutter, [258] please state where the termini of such projected sides will fall with relation to the cutting edge.

A. It will fall very naerly on the same.

Q. 123. Do you, therefore, find upon the body or lower end of one of these cutters any enlargement which produces a wider cutting edge than would be provided by a projection of the side lines of the shank of the cutter as last inquired about?

Mr. Lyon: Objected to as leading.

A. No, sir.

Q. 124. (By Mr. Blakeslee): If the side lines of the shanks of the cutters of Complainant's Exhibit "Wilson Patent" are projected downwardly to the cutting edge of the cutter, where will such side lines fall with respect to the lateral extremities of the cutting edge?

A. Some distance within the lateral edges of the cutting edge.

Q. 125. And outside of such extended side lines of the shanks what will be found to exist or be present in the cutters of the Wilson patent?

A. The shoulders or lateral extensions shown at point 16, together with the inner bearing-faces on each side shown at 4³, together with the cutting edge of the cutter below these points.

Q. 126. And will any cutting edge be found to remain outside of the side lines of the shanks of a cutter of the O'Donnell and Willard patent if such side lines are extended downwardly to a zone of the cutting edge?

Mr. Lyon: Objected to as leading.

A. No, sir.

Q. 127. (By Mr. Blakeslee): Now, if a cutter of complainant's "Improved Double Reamer and Cutters," what is the general shape of the shank of the cutter, viewed from its inner face? [259]

A. Rectangular.

Q. 128. And if the side lines of the shank be extended downwardly to the zone of the cutting edge, what, if anything, is found to be present in the cutter outside of these side lines?

A. Lateral extensions of the cutter-expanding bearing-face, a considerable portion of the cutter body and a considerable portion of the cutting edge of the cutters.

Q. 129. What have you to say as to the width of such portions of the cutter lying outside of such extended side shank line, tracing such portion from its top to its bottom.

A. Fully 2/5 of the entire cutting edge of the cutter lies without these lines.

Q. 130. How as to the maintenance of the width in such outside cutter portion?

A. These outside cutter portions extend the width of the cutter.

Q. 131. And how as to the maintenance of width across these portions of the cutter, comparing any one transverse area with another?

A. It would give about $\frac{2}{5}$ increased area for an increase of width of $\frac{2}{3}$ of the original cutting width.

Q. 132. Comparing these lateral outside cutter portions at the top of the body of the cutter with these lateral outside portions at the bottom of the body of the cutter, what have you to say with respect to the relative width?

A. The relative width is increased the same at the bottom as at the top of the cutter body.

Q. 133. Now, how with respect to the cutter of the O'Donnell and Willard patent in this connection? That is, what do you find in this connection in the O'Donnell and Willard cutter?

A. The increased cutter width at the top of the cutter body has produced no increased width in the cutting edge thereof. [260]

Q. 134. Then please compare the results obtained or effects produced by the provision of the single up-thrust shoulder running around the outer surface of the cutter of the O'Donnell and Willard patent at the top of the body thereof, with the two shoulders upon a cutter of Complainant's Exhibit "Wilson Patent" and the two shoulders upon a cutter of Complainant's Exhibit "Improved Double Reamer and Cutters," with

respect to the dimensions or width of the cutting edge of the cutter.

A. The single shoulder on the cutter of the O'Donnell and Willard patent produces no increased width of cutting edge, while the two shoulders on the cutter of the Wilson patent produces an increased cutting edge equal to their combined width. The same also applies to the cutter of the Double improved under-reamer and cutters as shown in Complainant's Exhibit "Improved Double Reamer and Cutters."

Q. 135. What *so* you make out with respect to the width of the single shoulder or up-thrust bearing the cutter of the O'Donnell and Willard patent, considering it from one end throughout its curved extension to the other end?

A. Its width is very small as compared to its length.

Q. 136. Please compare the width of this single shoulder at its ends with its width at the portions of it between its ends.

A. The width is the same throughout its circumferences.

Q. 137. Compare this curved continuous shoulder of the O'Donnell and Willard patent cutter with the shoulders or lateral extensions of the cutter of Complainant's Exhibit "Wilson Patent" and the cutter of Complainant's Exhibit "Improved Double Reamer and Cutters," particularly with respect to the backs or outer faces of the three cutters.

A. The bearing face on the O'Donnell and Willard cutter causes a jog or shoulder on the back of the O'Donnell and Willard cutter. The shoulders on the

Wilson underreamer-cutters and the [261] improved Double reamer and cutters do not form any such shoulder in the backs of the cutters.

Q. 138. What do you make out from the O'Donnell and Willard patent to be the office of this continuous curved rib or shoulder upon the top of the cutter body?

A. It is for the purpose of taking the up-thrust of the cutter.

Q. 139. Do you find any reference in the disclosure of this patent to any other office of such rib of enlargement or shoulder?

A. The outer edges of these shoulders 15 and 15' also engage with the shoe 22' to cause collapsion of the cutters when the reamer is withdrawn from the hole.

Q. 140. Do you find in the cutters of Complainant's Exhibit "Wilson Patent" and of Complainant's Exhibit "Improved Double Reamer and Cutters" any parts or features which correspond in their function of office with these shoulders 15 and 15' on the respective cutters of this O'Donnell and Willard patent, and, if so, please designate.

A. The shoulder 30 shown in the figures 7 and 8 and also figures 1 and 3 of the Wilson patent, show a shoulder which contacts with the shoe for the purpose of effecting collapsion of the cutters on withdrawal of the reamer from the hole. The same sort of notch is found on the shank of the cutter shown in Complainant's Exhibit "Improved Double Reamer and Cutters" on the shank at the outside thereof at about the middle portion of the slot in the shank.

Q. 141. Do you make out from any portion or all of the disclosures of the O'Donnell and Willard patent that those shoulders 15 and 15' of the respective cutters were provided for any other purpose than for imparting up-thrust to the bottom of the socket 2 and for co-operating with the shoe to effect contraction of the cutters? A. No, sir. [262]

Q. 142. Do the lateral bearing-faces 4³ at the tops 16 thereof, or at any portions thereof, referring to the cutter of Complainant's Exhibit "Wilson Patent," co-operate in any manner with the shoe or casing or with any part of the casing or any object or thing other than parts of the underreamer in causing collapse of the cutters?

A. No, sir.

Q. 143. Do the lateral bearing-faces on the bodies of the cutters of Complainant's Exhibit "Improved Double Reamer and Cutters" at the tops of such lateral faces or the extensions providing the same, or at any other portions thereof, co-operate in any way with the shoe on the casing or with any object or thing other than parts of the underreamer itself, in producing the collapsing action of the cutters?

Mr. Lyon: Objected to as leading.

A. No, sir.

Q. 144. (By Mr. Blakeslee): How do you understand the shanks of the cutters of the O'Donnell and Willard patent to be confined in the construction disclosed in that patent?

A. They are confined in the space formed at the lower end of the underreamer body in the socket be-

tween the inner wall thereof and the walls of the partition figure 3.

Q. 145. What sort of a fit is provided between the partition and the inner walls of the socket when the cutters are in expanded position?

A. A reasonably close working fit.

Q. 146. What, if any, effect will that have with respect to any tendency of the cutters to rotate upon a longitudinal axis?

Mr. Lyon: Objected to as leading and suggestive.

A. It is, of course, resisted by contact of the cutter-shank with the space in which it fits. [263]

Q. (By Mr. Blakeslee): Please compare further the shanks of the cutters of this O'Donnell & Willard patent with the cutters of Complainant's Exhibit "Wilson Patent" and of Complainant's Exhibit "Improved Double Reamer and Cutters" with respect to the structural features of the same.

A. The cutter-shanks in the O'Donnell and Willard underreamer patent consist of a plane face on the inside, and on the outside of a curved face, which tapers upwardly and inwardly toward the inside plane face, surmounted at the top by a horizontal plane face and at the bottom joins to the main portion or body of the cutter 12. Near the top of the shank of the cutter is the slot called in the patent the "cross-head socket 14," in which spring-actuated means are operated. Above the outer edge of this socket 14 the cutter-shank is tapered off slightly to permit of collapsing action. In the Wilson underreamer cutter shown in the Wilson patent, the shank consists of a narrow piece of metal

whose sides are parallel planes, whose inside is a single plane. At the line of contact of these planes there are dove-tailed ridges 4-square. On the outside of the cutter-shank is an inclined face surmounted by a more steeply inclined face, 30, surmounted by a vertical face 4' and by a slightly angles face above that. On the inside of the cutter-shank near the top is a pocket 18 for the reception of spring-actuated means. The top of the cutter-shank is a horizontal plane surface with the inside edge beveled slightly.

The shank of the improved Double cutter consists of two parallel lateral faces joined at the back by a substantial vertical face. At the line of contact of these faces are dove-tailed ribs or edges. The inner face of the cutter shank is broken by a notch consisting of two inclined planes. The top of the cutter shank terminates in a downwardly and outwardly inclined plane. The outside of the cutter-shank consists of a cylindrical or curved edge [264] near the top of which is a notch, and at this point there is a slot cut through the cutter-shank for the reception of the spring-actuated means, and through the lower part of this slot is a hole for the placing of a pin to lock the spring-actuated means in place.

Q. 147. Now, irrespective of the one or single curved rib or shoulder or enlargement upon the cutter of the O'Donnell and Willard patent reamer, and irrespective of the lateral extensions upon the cutter of the Complainant's Exhibit "Wilson Patent," and irrespective of the lateral extensions upon the cutter of Complainant's Exhibit "Improved Double Reamer and

Cutters," please compare the action of the shanks of these three cutters with respect to the resistance to the stresses tending to rotate the cutters.

Mr. Lyon: Objected to as assuming a mode of operation and an element or series of elements to be used in co-operation with the cutter not appearing in or material to the issues of this case, which are confined solely to the underreamer cutter as an article of manufacture.

Mr. Blakeslee: Our position in this matter, as heretofore stated, is adhered to.

A. The shank of the O'Donnell and Willard cutter tends to resist the rotation by prying action caused by its irregular or crescent shape acting in a similar shaped pocket in the underreamer body.

The prying actions of the Wilson underreamer cutter shown in the Wilson patent tend to resist rotating action by stress being resisted by the dove-tails 4-square and by a spreading action which would then be produced by the shank of the cutter on the prongs at the lower end of the underreamer body.

The rotating action will be resisted by the cutter-shank of the Double improved underreamer cutter by the dove-tails [265] on one side, and the upper edge of the spreading-bearing on the cutter-shank acting against the hollow-slotted extension.

Q. 148. If the shoulder or rib or continuous bit or shoulder upon the body of the cutter of the O'Donnell and Willard patent were eliminated, please compare the resistance which the cutter would oppose to the rotation of such resistance opposed by the cutter as disclosed in the patent.

A. Very little, *in* any, difference would be made, because the part thus removed would be a very small part of the contacting surface of the cutter and the wedge 3.

Q. 149. What have you further to say in such comparison, taking into consideration the close pocketing of the shank of this cutter between the bowl 2 and the respective face of the partition 3?

A. The closely confined fitting of the cutter-shank would minimize, if not entirely destroy, any tendency of the extended portion to resist rotating movement.

Q. 150. Now, with this single shoulder eliminated from the cutter of the O'Donnell and Willard patent and the shank socketed in the space between the bowl and the partition, that is, with the cutter in expanded position, please state whether or not any rotary action of the cutter would be permitted.

A. No, sir.

Q. 151. Now, please compare this close confinement of the shank of the O'Donnell and Willard cutter with any confinement which you find present or to exist with respect to a cutter of Complainant's Exhibit "Wilson Patent" and Complainant's Exhibit "Improved Double Reamer and Cutters?"

A. The confinement in these cases is not so close as in the O'Donnell and Willard patent, for the reason that with the dovetail construction more play must be given to the cutter in its bearing and in its contact with the reamer body in order to permit free expansion and collapsion of the cutter. Also, it has been [266] shown to be better practice to give the cutters

will not become packed and jammed by sand or cuttings getting in the working surfaces.

Q. 152. Please state what effect, if any, is produced by the provision of the single bit or shoulder 15 or 15' of the O'Donnell and Willard patent with respect to the amount of stock in the body of the cutter at the cutting edge?

A. There is little or no stock added to the body of the cutter at the cutting edge by the increase laterally by the shoulders 15 and 15' in the O'Donnell and Willard reamer.

Q. 153. Now, from your experience in designing and manufacturing oil well tools, please state whether the disclosure of the O'Donnell and Willard patent would enable you or anyone else equally skilled in the art, considering such disclosure as a specification or written instruction, to construct a cutter having a body either like that of Complainant's Exhibit "Wilson Patent" cutter or Complainant's Exhibit "Improved Double Reamer and Cutter" cutter.

Mr. Lyon: Objected to as leading, incompetent, no foundation laid and not the best evidence, and not redirect examination.

A. No, sir.

(By consent of counsel an adjournment is now taken until to-morrow, Thursday, April 23, at 2 o'clock p. m., at this same place.) [267]

Office of Raymond Ives Blakeslee, Esq., Solicitor for
Complainant.

Thursday, April 23, 1914, 2 o'clock p. m.

This being the time to which the further taking of proofs on behalf of complainant was continued, proceedings are now resumed.

Present: Raymond Ives Blakeslee, Esq., solicitor for complainant; Frederick S. Lyon, Esq., solicitor for defendant.

W. W. Wilson recalled.

Redirect Examination

resumed:

Mr. Blakeslee: As counsel has objected to the last question for various reasons, and among them that the question is not redirect examination, and as we have objected to any questioning of this witness with respect to the O'Donnell and Willard patent which has been under discussion, and as that objection was registered against questioning as to this evidence when the witness E. C. Wilson was under examination, and as manifestly this is not a time for defendant to present its defenses or make out its case, we can only assume that counsel is making the present witness his own and is attempting to prove his case in part out of the mouth of this witness produced for complainant. Therefore, still urging the objections heretofore made as against the discussion of this purported O'Donnell and Willard patent during these takings of proofs for complainant, and abiding by such ruling as may be made upon such objection, we will extend the latitude of the examination of the present witness commen-

surate with the assumption that as to this subject of inquiry he is a witness for the defense. It is urged that we may not be denied our right to cross-examine any witness whose testimony is sought with respect to any subject of defense, and, therefore, our further [268] questioning of this witness with respect to this purported O'Donnell and Willard patent will, as stated, be conducted with the broader scope and along the broader lines which would be proper on cross-examination of a witness for the defense, and which we contend under the circumstances are proper with respect to the cross-examination of this present witness on this particular subject. As to any other subjects, the inquiry will be kept within the strict lines of redirect examination.

Mr. Lyon: Counsel for complainant may derive any conclusion that he desires from the argument and statement placed on record by him. This is neither the time or place for an argument of the question involved in his statement. Defendant does not accede thereto, and will at the hearing of this cause meet such contention fully. Notice is given complainant that if the witness is examined further on the subject of the O'Donnell and Willard patent, defendant will insist that it is a waiver of the pretended objection that the subject of the O'Donnell and Willard patent is not cross-examination, and, clearly, if it is not cross-examination it cannot be the subject of redirect examination. The difference between the subject of question 153 asked this witness on redirect examination and on cross-examination of this witness in regard to the subject-

matter of the O'Donnell & Willard patent will become apparent at the hearing of this cause. Defendant disclaims making this witness a witness on behalf of defendant for any purpose whatsoever. The questions asked this witness in regard to the O'Donnell & Willard patent are competent cross-examination for the purpose of testing the ability of this witness as an alleged expert, if for no other purpose.

Mr. Blakeslee: There is a time, of course, and a place, for presenting defenses in suits of this sort, and under the guise of testing the expertness of this witness it is contended that the defendant cannot make his case on his defenses out of [269] the mouth of the witness for the complainant. We understand counsel to imply that we cannot examine this witness either in redirect or in cross-examination as to the subject of this O'Donnell and Willard patent. We cannot adopt this view of the situation, and we propose to examine him in the most advantageous method and leave it to the court to determine the whole question of the propriety of examining this witness at all at this time and in these proceedings, upon the subject of this O'Donnell and Willard patent. We do not proceed in this direction solely because of the objection made by counsel to question 153, but in order that we may exercise our undoubted rights to cross-examine any witness in connection with whose testimony matters purely of defense are brought into the case. If the court rules that all of this testimony on the O'Donnell and Willard patent taken at this time in connection with these *prima facie* proceedings should be ruled out and withheld

from consideration, such ruling will not be contrary to our expectations. However, if any of it is to be considered, we wish this matter to be presented in a manner which is commensurate with our rights on this subject.

Mr. Lyon: Defendant insists that complainant has no right to "cross-examine" this witness.

Q. 154. (By Mr. Blakeslee): Do you find any dovetails or lateral projections upon the shanks of the cutters of the O'Donnell and Willard patent?

Mr. Lyon: Objected to as leading.

A. No, sir.

Q. 155. (By Mr. Blakeslee): Do you take it that any rotation of the cutters of the O'Donnell and Willard patent is possible when the shanks thereof are pocketed in the spaces between the partition 3 and the bowl 2?

Mr. Lyon: Objected to as leading.

A. No, sir. [270]

Q. 156. (By Mr. Blakeslee): Do you find more than one shoulder or enlargement upon the cutters of the O'Donnell and Willard patent reamer?

Mr. Lyon: Objected to as leading.

A. No, sir.

Q. 157. (By Mr. Blakeslee): Do you find disclosed in the O'Donnell and Willard patent any object or purpose for this one shoulder, other than to impart an up-thrust of the cutters to the bowl and to cooperate with the shoulder upon the lower end of the casing in causing the collapshion of the cutters?

Mr. Lyon: Objected to as leading and suggestive.

A. No, sir.

Q. 158. (By Mr. Blakeslee): Do you find on the cutters of the O'Donnell and Willard patent reamer any lateral extensions or shoulders which are developed clear to the bottoms or cutting edges of the cutters so that the cutting edges are widened substantially to the extent that the upper portions of the body of the cutters are widened?

Mr. Lyon: Objected to as leading.

A. No, sir.

Q. 159 (By Mr. Blakeslee): As a matter of fact, in the O'Donnell and Willard cutters there is nothing but a slight enlargement of the body of the cutter at each side, diminishing toward and disappearing at the cutting edge of the cutter? Is that not correct?

Mr. Lyon: Objected to as leading and suggestive.

A. Yes, sir.

Q. 160. (By Mr. Blakeslee): And taking into account the mass of the rest of the cutters and the stresses and strains which tend to cause rotation of the reamer-cutters, do you consider that these slight diminishing side enlargements are or would be materially effective in opposing any rotation of the cutters or any [271] tendency of the same to rotate, should such rotation be possible?

Mr. Lyon: Objected to as leading.

A. No, sir.

Q. 161. (By Mr. Blakeslee): Do you find at or adjacent to the cutting edges of the cutters of the O'Donnell and Willard patent reamer any material increase in mass of metal which might serve to materially prolong the life of the cutters by providing extra

metal for dressing out the cutters adjacent to the cutting edges?

Mr. Lyon: Objected to as leading, and upon the further ground that it is irrelevant and immaterial to the issues of this suit, inasmuch as the issues of this suit are directed solely to the underreamer-cutter as an article of manufacture, and do not embrace and involve the mode of operation of an underreamer as a whole, and, therefore, the mode of operation or principle of action of an underreamer-cutter when allied with the other parts of the underreamer can form no part of the issues of this case; and the testimony of this witness shows plainly that the theory of rotation of the cutter advanced by this witness has to do with the co-operation of the cutter of the underreamer with the parts and surfaces of the body thereof to which it is allied, and that such rotation is incidental to the co-operative action of the cutter in and with such underreamer body and surfaces, and not inherent in the article of manufacture, to wit, the cutter itself *per se*, and that such rotation is not in the cutter itself, nor is there any action of the cutter itself causing rotation of any of its parts, and that such rotation cannot take place except in conjunction with other parts in forming any part of either claim 16 or 17 of the patent in suit or involved in this litigation.

Mr. Blakeslee: Although we do not, as by this time will be manifest, agree with the views of counsel with respect to this objection discussed at length by him, and we may point out that from [272] the viewpoint of his remarks it must be proper to consider the advantages attaching to an underreamer-cutter having special or

particular features as one of the objects of invention is to better meet the service and uses to which a patented thing is to be put. If, for instance, it be established that rotation of cutters is an objectionable and prevalent trouble in underreaming, it certainly would be proper to point out that a patented underreamer-cutter which in use would eliminate such rotative trouble, was better and an improvement over prior cutters in that respect. The discussion of a patented improvement certainly cannot be limited to its inherent aspects and qualities, but must also in a fair and proper discussion of an invention go into the advantages of such inherent qualities and characteristics. Furthermore, it is to be pointed out that the last question related to the cutting edge of the cutter, and it is assumed that it is proper to discuss the work for which the cutter is designed.

Mr. Lyon: The further objection is urged to this entire line of examination and to all portions of the testimony of this witness, or any other witness in this case, with reference to the mode of operation or principle of action of an underreamer-cutter when in position as a part of an underreamer, that the complainant herein is estopped from claiming that claims 16 and 17 embrace or can be limited to or held to embrace any other portion of the underreamer than the underreamer-cutter *per se* as an article of manufacture, for the reason that on March 16, 1906, by the office action of rejection as shown by paper No. 4, forming part of Complainant's Exhibit "Wilson File Wrapper and Contents," the original claims 16 and 17 were rejected on the patent to Edward Double, No. 748,054, upon the

grounds stated by the commissioner of patents, as follows: "Furthermore, the article of manufacture cannot be limited by the device with which it is used." Complainant acceded to such rejection and position taken by the patent office, and [273] amended the said claims to avoid the objection and rejection just quoted, and he is therefore estopped from making a contention in opposition to the position thus taken by the complainant in the patent office, or claiming that claims 16 or 17 are commensurate with or cover the underreamer in connection with the said article or manufacture, to wit, the underreamer-cutter or cutters.

Mr. Blakeslee: Although this record shows that the questions or subjects of mode of operation and principle of action have been industriously followed in the examination of witnesses by counsel for the defendant, in fact under our repeated objections, we are nevertheless obliged to counsel for pointing out at this time the quoted matter of paper No. 4 of the "File Wrapper and Contents," being Complainant's Exhibit "Wilson File Wrapper and Contents." Such quoted matter very nicely, we submit, supports our contention that "the article of manufacture cannot be limited by the device with which it is used." We are attempting to prove that these cutters were not limited to those features of underreamer construction which are disclosed in Complainant's Exhibit "Wilson Patent," but have been shown to be susceptible of adaption to the specific features of construction of defendant's underreamer. In fact, it is our position exactly that this underreamer-cutter with its various features of improvement is adaptable to the varying conditions of service and to

combination with various other general features of underreamer construction, and that is what we are attempting to prove in this case. In order to so prove our contentions, it is necessary for us to show what this improved underreamer-cutter is capable of doing, which its features of advantages are and how versatile it is under any conditions of service within which its great advantages are susceptible of demonstration. Therefore, while not limiting the improved cutters to any specific underreamer organization, we are simply attempting [274] to show how such cutters co-operate with the remaining portions of complainant's and defendant's underreamer organizations.

A. No, sir.

Q. 162. (By Mr. Blakeslee): Do you take it that this single ledge or rib or shoulder upon the cutters of the O'Donnell and Willard patent underreamer in any way answers the purpose which you have discussed of the two lateral shoulders upon the bodies of the cutters of Complainant's Exhibit "Wilson Patent" and Complainant's Exhibit "Improved Double Reamer and Cutters" cutters?

Mr. Lyon: Objected to as leading and incompetent, and not the best evidence, and calling for a mere conclusion of the witness and not for a statement of facts.

A. No, sir.

Q. 163. (By Mr. Blakeslee): Now, as to the question of in-trust tilting of these cutters of the O'Donnell and Willard patent reamer, do you think that the terminal portions of *the* this single ledge or rib or shoulder upon this reamer materially assists the cutters in

imparting in-trust to the hollow-slotted extension or partition disposed between the cutters?

Mr. Lyon: The same objection.

A. No, sir.

Q. 164. (By Mr. Blakeslee): In an underreamer having cutters designed like those of the O'Donnell and Willard patent, namely, with shanks of increasing width calculating from the upper ends of the shanks downwardly, such shanks being closely pocketed in the spaces between the bowl 2 and the partition 3 when the cutters are in expanded position, is there any necessity for any enlargement of the bodies of the cutters laterally to oppose any rotatory tendency of the cutters?

Mr. Lyon: Objected to as leading and as irrelevant and immaterial to the issues of this suit, for the reasons before stated in full. [275]

A. No, sir.

Q. 165. (By Mr. Blakeslee): When you testified in answer to question 116 on page 118 of the record, that the lower ends of the bits are extended out or projected out at right angles to the shank of the bit or cutter, forming the shoulder, you intended to convey the idea that such slight extensions were merely the terminal portions or ends of the single shoulder developed in the curve of the outer face of the bits or cutters, did you not?

Mr. Lyon: Objected to as leading and suggestive.

A. Yes, sir.

Q. 166. (By Mr. Blakeslee): Would it be possible to insert a cutter constructed such as the disclosure in the O'Donnell and Willard patent in a reamer constructed substantially in accordance with the speci-

fications and drawings of Complainant's Exhibit "Wilson Patent," or in the reamer body, being Complainant's Exhibit "Improved Double Reamer and Cutters," so that such O'Donnell and Willard patent cutter would be operative and expand and contract properly, assuming that the sides of such cutter were prepared to permit of its introduction in the new environment with the closest or most perfect working fit which could be provided?

Mr. Lyon: Objected to as leading, and irrelevant and immaterial to the issues of this suit, and as incompetent, the witness not having qualified to answer the question.

A. No, sir.

Q. 167. (By Mr. Blakeslee): Would the addition of dovetails or ledges upon the shank of such O'Donnell and Willard patent reamer bit or cutter, without the provision of the two distinctly produced and provided lateral shoulders, upon the body of such cutter, and extending clear down to and including part of the cutting edge of the cutter—would such O'Donnell and Willard patent reamer-cutter serve the purposes and have the [276] advantages and attributes of a cutter such as that disclosed in Complainant's Exhibit "Wilson Patent"?

Mr. Lyon: Objected to as leading and calling for a mere conclusion, and an expression of opinion of the witness and not for a statement of facts, and therefore incompetent. Further, on the ground that it is indefinite and uncertain as to what alleged advantages and attributes are referred to.

A. No, sir.

Q. 168. (By Mr. Blakeslee): You have been engaged in the manufacture or assisted in the manufacture of underreamers and cutters thereof for some years, have you not?

A. Yes, sir.

Q. 169. And in giving your last answer have you taken into consideration all such experience and all of the lessons and teachings which have resulted from such experience in underreamer and underreamer-cutter manufacture?

Mr. Lyon: Objected to as leading.

A. Yes, sir.

Q. 170. (By Mr. Blakeslee): And the provision of this single up-thrust imparting a collapse-assisting shoulder upon the cutter of the O'Donnell and Willard patent underreamer in no wise increases the width of the cutting edge of the cutter, does it?

Mr. Lyon: Objected to as leading.

A. No, sir."

The three prior Double patents, Defendant's Exhibits Double Patents Nos. 1, 2 and 3, are devoid of anything pertinent to the Wilson invention, and particularly the claims found infringed. Double Patent No. 1 is the patent in which defendant owns an interest and which complainant's company has been found infringed in the companion suit, and it is the patent from the structure of which the defendant here departed in infringing the Wilson patent in suit. It does not suggest the pronged formation in any of the three cases reflecting the Wilson invention, either to permit close collapshion of the cutters, to permit assembling at the bottom of the

reamer, or as carrying bodies for a lug element or elements or cutter ways. The lug element is not disclosed or even suggested in any respect, nor are the lateral shoulders upon the cutters for co-operating therewith, and therefore the combination of such body portions with lugs and cutter ways and cutters with lateral shoulders, either with or without the lug elements or a continuous lug element, is entirely missing in Double Patent No. 1. This is the device which *failed* until it was reorganized to include the Wilson invention—failed as against the better Wilson reamer.

In Double Patent No. 2, we find the same paucity of anything to anticipate the Wilson invention. It is true that we find in this patent supplemental lugs or dovetails 10 *on the cutters* entering pockets or grooves 15, which are said to hold the slips and prevent them from spreading outwardly. In other words, *these are outthrust bearings similar to the lugs 14 forming ways*, and the lugs 10 are really supplemental dovetails or shoulders on the cutters, simply added to the shoulders in the Double Patent No. 1. They are, as a matter of fact, on the shanks of the cutters, as clearly shown in Figure 5, and not upon the working body of the cutter as in the Wilson and the infringing Double's, nor are they any broader than the working body, and there still exists, as the trial court has said with respect to the Double patent of the original design, the old Double theory, for "the slotted web of the lower extension helped to form a pocket for the cutter and furnished the inthrust and outthrust-bearing for the cutter shanks, and thus extended to the very bottom of the reamer. This, necessarily, resulted in two things: an

inner-bearing for the cutter head, narrow as compared with the diameter of the extension upon the reamer body, and weakened to some extent by the slots therein." There is no suggestion of any lateral shoulders on the cutters or of the lug elements 2' having the spreading bearings 9 of the Wilson patent. There are no enlargements of the body of the cutter, no lateral shoulders to prevent rotatory action, no enlarged cutter body to provide more stock for dressing out, no enlarged reaming edge on the cutter bodies, and no widening of the cutters to prevent "key-holing" or "key-seating." The "prong" elements of complainant's patent, in no one of the three "cases" *supra*, is found in this patent, and nothing is found therein but supplemental 10 shoulders on the cutters, or extensions of the shoulders or ridges 12, provided specifically for the purposes above-mentioned, to take outthrust, and to prevent the cutters thus from spreading outwardly. [See lines 16 to 21, p. 2, of the specification of the Double Patent No. 2, and also lines 36 to 45, same page, R. p. 985.] This reamer is still the "old design" Double reamer *which defendant departed from in infringement*. If any one of these Double patents was the same or as good as the *Wilson reamer*, *why did defendant not stick to its own instead of appropriating from Wilson?*

Defendant's Exhibit Double Patent No. 3 has been considered somewhat by the trial court, particularly with respect to claim 8, found valid but not infringed, and therefore on an issue which is not directly presented here. But we believe the honorable trial judge erred with respect to any limitation to be read into claim 8 because of this patent, or as to any relation

thereof to the patent in suit, inasmuch as the pin 22 of this patent is merely a part for assembling together the detachable portion 10 of the body, which carries the integral portion 10', reaching up into the bore 5, and which part 10 co-operates with the cutters to produce expansion and collapsion. The cutters have nothing to do with the spaced walls 3 and 3' in collapsion and expansion, and therefore these walls cannot be considered prongs within the meaning of the Wilson patent, irrespective of the fact that they have no lugs, and further irrespective of the fact that such spaced walls do not permit any collapsion of the cutters between them, and do not permit assembling of the reamer features between them, and of course would not be remachined because they are not *working* parts. As hereinabove pointed out it is necessary to use the "sub" or middle joint or screw cap with the body of this reamer, and to remove the same to set up the nut and tighten the spring, and there is no indication that this underreamer is to be ever disassembled after once assembled, the cutters being merely pulled down so that the key 8 can be driven out and the cutters thereupon detached leaving the body part 10 attached to the body after they are assembled together. The disadvantage of using the cutters slotted through for such a cutter key, and the weaknesses resulting therefrom, are hereinabove pointed out, and, as shown particularly in the testimony of Pickering and Bailey, the eyes thus produced cause breakage in the cutters at such points, and such eyes are not found in the Wilson cutters, but merely key pockets or sockets or recesses 18 as shown in the Wilson patent. The strong integral

tee of the Wilson patent and Type "F" of defendant could not be used in the reamer because it is not a "bottom-assembled" reamer.

Thus, we submit, this Double Patent No. 3 should have no effect whatsoever in respect to claim 8 and of course is not profitable at all with respect to the subjects of claims 9 and 19 found infringed, as the court found. This of course is true because the pronged relations, as stated, are not present, in any of the three cases, nor have the cutters any of the features of the invention of Wilson, including lateral shoulders, nor even the cutter shoulders of Wilson claim 9 which in Wilson and the infringing structures are located inside the fork or between the prong elements. In other words, this patent shows neither the bearing-faces 4^3 nor the bearing-shoulders 4^2 of Wilson. This patent is a bowl mouth type patent like the Jones removable bowl reamer, and with the other Double patents is open to all the objections of rotatory action tending to break and twist the cutters and any dovetails or shoulders thereon, and tending to "key-seat" or "key-hole" the hole walls. It has the old Double "narrow cutter" theory, presented in each of the three Double patents. The file wrapper and contents of the Wilson patent disposes of the Double prior art effectively. The court has considered this Double Patent No. 3 particularly with respect to the Type "F" infringing reamer of defendant. For the reasons above given we submit that this patent could have had no bearing whatsoever upon the proper interpretation of claim 8, although such claim was not found infringed. The essence of claim 8 is said by

the trial court to have been the crosspiece. It was one element of the combination of that claim, and is not shown in Double Patent No. 3, for in such patent the part held between the spaced walls 3 and 3' is a portion of the body of the underreamer, which is intended to remain in place held by the pin 22 and it is not held in any sense between the working "prongs," within the sense of the Wilson patent, as above pointed out, in any of the three cases.

There is in evidence also in this case another Jones reamer known as the Jones round nosed reamer, but on the trial defendant withdrew this reamer, as pertinent in no manner to the issues on the prior art side. It does not show the combination, interrelation and mode of operation, nor the construction of the Wilson patented invention, nor can it be operated in the same manner, nor assembled in the same manner, nor remachined, and it is not worthy of time and space devotion in this case.

This comprises the prior art relied upon by defendant in its weak attempts to anticipate the many phased, featured and sided important invention of the Wilson patent in suit. *The court has said it does not anticipate.* [R. bottom p. 66 to p. 67.] It is the sort of attempt condemned by the authorities, in that it seeks to set up mere abandoned experiments and unadopted and untried or dissimilar things and subjects of publications by patent, in a blunderbuss attempt to strike down some part of the meritorious invention of a patent which has become the *dominant patent in the art concerned.* The law is so thoroughly established as to such attempts to destroy and besmirch a meritorious

invention that we may without further discussion on this head pass on to the simple subject of infringement. On the subject of abandoned experiments, such as the Jones round nosed reamer, this court's opinion in *Parker v. Stebler*, 177 F. R., is in point.

Infringement.

In entering upon the discussion of infringement, we wish to quote from the memorandum of decision of the trial court, pages 76 to 79, inclusive, as follows:

“Passing to claims 9 and 19, it has already been found that, as ways for the cutter to slide, or ride on, the faces of the prongs and lugs were no more than equivalents of the ways found in the Double invention; but, in so far as these prongs or lug faces afforded bearings for the cutter when in reaming position is concerned, a different question is presented, and this is the feature covered by claims 9 and 19.

In the machine of the Double patent and original design, the slotted web of the lower extension helped to form a pocket for the cutter and furnish the intrust and outthrust bearing for the cutter-shanks and extended to the very bottom of the reamer body. This, necessarily, resulted in two things: an inner bearing for the cutter head, narrow as compared with the diameter of the extension upon the reamer body, and weakened to some extent by the slots therein.

In the patent in suit, the lower portion of the outer web is cut away, giving the cutter less lateral and greater intrust bearings. The lugs on either side are thereby created. The outer face of these lugs form bearings for the inner shoulder on the cutters. This

formation enables the maker—because of the removal of the side web—to give the cutters a wider inner face and inner bearings at the outer side of the inner face of the cutter. [67]

The bearings on the 'lugs' thus afforded—being in the direction of the extension of the enclosing web, necessarily, make a stronger formation than the bearing confined, as in the original Double design, to the slotted intersecting cross web. The broader cutter-head and broader bearing furnished by the device of the patent in suit, obviously, tend to lessen any tendency of the cutters to twist in operating and there is testimony in the cause, which I am inclined to credit, that, with the narrower Double cutter, the work of the reamer is more likely to result, under certain recurring conditions, in what is termed 'key-holing,' that is, in the cutters which are hung opposite to each other, each getting started to cut downward in the same place and not reaming uniformly around the hole.

In the so-called 'Double Improved' underreamer and in Type 'F,' with the interposed block in position, a lug at the lower end of the reamer body appears and, with the block removed in Type 'F,' two lugs appear, in relatively the same position and with relatively the same bearing faces as those upon the lugs of the patent in suit.

In so far as these bearings in defendant's 'Double Improved' and Type 'F' extend upon the faces of the lug or lugs beyond the sides of the diameter of the pocket in which the cutter is mounted, they are mechanical equivalents of the bearing on the outer face of the lugs in the patent in suit, and the same is true

of the widened portion of the inner face of the cutter adapted to bear upon such portion of the face of the lug. It matters not that, in the device shown in evidence, the cutter head extends but a little distance upon this bearing, for to that extent, defendant has appropriated what does not belong to it and, therefore, infringes.

Upon the argument, it was contended by the defendant, that the only novelty and patentable feature of the patent in [68] suit was the pronged formation which permitted the collapse of the cutters between the prongs. If cutting away the interposed web in the Double device to allow the cutters to collapse more completely was patentable, on the same principle, cutting away the side web to give the cutter yet a greater bearing was also patentable and, if appropriated, infringement results.

In the earlier Double devices there were secondary dovetails adjacent to the junction of the cutter-head and shanks, with corresponding ways in the inner faces of the extension, forming the recess in which the cutter is mounted on the body. These added ways caused an outward flare at the mouth of the recess, or pocket. As these ways were made deeper and the flare increased, a wider bearing would be given an opportunity for a wider faced cutter to bear upon it; but when defendant departed from this form of construction and entirely sheared away the side web of the extension to form a lug, the bearing faces to accommodate the wider cutter-head, he appropriated the invention and conception of Wilson, and particularly of the patent in suit. The fact that defendant did not appro-

priate the, perhaps, relatively more important conception of Wilson, whereby the cutter-shanks were allowed to collapse between the prongs, does not excuse it, or take from the infringement it has practiced, for the seat or bearing of the cutter-head on these faces, or lugs, is not dependent upon the swing in collapse of the cutter-shanks between the prongs.”

Also we wish to quote from the memorandum of the trial court of ruling on rehearing, from page 84 R., as follows:

“Counsel for defendant has again urged upon the court consideration of the merits. The forked formation of complainant’s reamer body was essential to the complete collapse of the cutters; but it was not essential to the co-action in the particular in which infringement is found. The fact that, in describing, in the claims, a member of a machine which performs two functions in such a way as to disclose a feature of its fitness to perform one function, which feature is not essential to the discharge of its other function, does not warrant competitors in dropping such feature and thereby appropriate one-half of the invention and its advantage, nor prevent the court from according the patentee such a range of equivalents as will fairly protect him in the substantial merits of his invention. If so, form becomes everything and substance nothing. Rehearing denied.”

We have seen from the discussion of the nature and characteristics, meets and bounds of the Wilson invention hereinabove, that defendant appropriated in its infringement the invention of Wilson, in all of its

characteristics and aspects save and except the one aspect of collapshion of the cutters between the prongs; so it would seem that the trial court had full warrant to go further than it did, and that the opinion might have found that the defendant went very much further than to “thereby appropriate one-half of the invention and its advantage,”

An examination of the infringing reamers, the Improved Double reamer with cutters, and reamers Types “D,” “E” and “F,” will disclose no margin for argument that the substance of each of claims 9 and 19 found infringed is not duly and fully embodied therein. As to claim 9, there is found in each of the same a body terminating in a portion designated in the patent “prongs,” and within case 3 above mentioned in dealing with this term “prongs” provided with shoulders on the inner faces of the prongs forming cutter-ways and terminating in downwardly projecting lugs as well as cutters mounted between such prong-designated parts and having shoulders inside of the fork produced by such prong-designated parts and having faces to bear on the projecting lugs. The testimony of W. W. Wilson in particular points out these features and their presence in the infringing reamers, as above indicated and quoted. The same is true with respect to claim 19, in which the prong-designated elements find their structural answer, clearly, in each of the infringing reamers, together with the cutters each having the two shoulders and a bearing-face on the inner side of each of the two shoulders to engage said prong-designated parts. The “shoulders” of claim 9 are clearly the *lateral extensions*

having the bearing faces 4^3 on their inner sides—not the “corners or bearing 16” at the *tops* of such *shoulders*. In other words, the defendant in each of these reamers clearly employs, without the assistance of any indulgent application of the doctrine of equivalents, the shoulders $2''$ to form the ways 3 of the Wilson patent, the lugs $2'$ of the Wilson patent, the spreading-bearings 9 upon such lugs, the cutters analogous to and performing the same functions as the cutters 4 of the Wilson patent and mounted between the prong-designated parts 2 of the Wilson patent, such cutters having shoulders as 4^2 located inside of the fork comprising the prong-designated parts, such shoulders as 4^2 cooperating with the shoulders $2''$ on the prong-designated parts, and the cutters likewise having bearing-faces as 4^3 to bear on the spreading-bearings 9 upon the lugs $2'$; such bearing-faces as 4^3 being upon shoulders projecting oppositely and laterally from the cutters. Claim 19 is of course broader than claim 9, not having all the limitations thereof, and the lugs $2'$ not being specifically mentioned therein. But each claim *for a distinct combinative entity, is clearly embodied in the infringing reamers.*

When we come to the Type “F” reamer we find that claim 8, and other claims such as 4, might well, and we contend, properly, have been found infringed therein, in accordance with the above discussion of the Wilson invention and the nature and substance thereof and the many-sidedness thereof. Clearly in Type “F” there is a well defined cavity between the prong-designated parts carrying the shoulders on the inner faces thereof forming cutter-ways, and it would appear that the

bridging of the space between the lower ends of these prongs by the removable block and bolt would not disturb the nature of these prongs as coming within case 2 above, namely, permitting assembling at the bottom and remachining, any more than the provision of the detachable crosspiece or bolt in the Wilson. This Type "F" is clearly the most flagrant of all the infringements, and includes the detachable key used in place of the block 7 to form a seat for the spring, which key was the claim of Bole in the Bole and Double *versus* Wilson *et al.* litigation decided adversely to the complainants on appeal. It would seem as though complainant herein should have been particularly granted a more extensive finding of infringement as to this form even than as to the other infringing types of defendant's reamers. The testimony of Hubbard [R. p. 933] and of Mills [R. p. 964] shows clearly the usability of the Type "F" reamer without the detachable block at the lower end thereof. Hubbard testifies [R. pp. 933-937] that he witnessed such use of defendant's Type "F" reamer, or saw such a reamer withdrawn from the well hole after reaming, without the detachable bolt between the forks or prongs at the end of the body and that there was no such block connected with the reamer at that time; but that the bolt used between the prongs in the Type "F" reamer was in place in the reamer and that the reamer was completely set up with the exception of the block; and that the reamer showed it had been used. He testifies that the reamer was being run or operated while he was at the well about half an hour before it was pulled out, and thus it was made plain that this Type "F" reamer was actually operated

without the block which, defendant would have it, was necessary for its use to give full strength and attack of inthrust of the cutters. *It is significant that defendant made no attempt to rebut this testimony, and it must stand as uncontradicted and show that the reamer was really not intended, nor designed, to be used without this block; and, as we contend, that it was introduced as a mere subterfuge, being in effect but a bushing or enlargement, to be used if desired, upon the detachable bolt which is the equivalent of the detachable bolt or crosspiece 11 of the Wilson patented reamer.* The trial court does not agree with us, as to this, nor with our contention that the block is employed as a subterfuge to colorably avoid infringement, as was correspondingly done in the anti-skid tire chain device of Weed Chain Tire Grip Co. v. Cleveland Chain & Mfg. Co., 196 Fed. 213, and in Parsons Non-Skid Co. v. Atlas Chain Co., 198 Fed. 399. In those cases the anti-skid chains were sold or supplied with adjuncts, attachments, directions and the like which, it was contended by the infringers, avoided any intent to infringe or any real possibility of infringement. Of course in the case at bar we are now only discussing this feature of the detachable crosspiece 11 or safety bolt, and its counterpart in the Type "F" defendant's infringing reamer which has been found to infringe otherwise in other respects. But, as in the Weed and Parsons cases *supra*, where, for instance, a tie wire or strap was provided, to be used to prevent the chains from "creeping" on the tire, and thus to avoid the use of the essential characteristics of the invention; here, we contend, with similar intent, we find here the employment of a block

on the safety bolt or detachable crosspiece 11, *which either with or without the block has the same function to prevent loss of cutters in the hole should the spring-actuated rod or stem 5' or cross or tee 5 break, and to brace the prongs against spreading or distortion; and we find this infringing Type "F" reamer actually used without this block, as in the Weed cases the anti-skid chains were used and of course intended to be used without the utility-limiting factor of the tie wire or strap or the like.*

More than that, we have in this case the deposition of a qualified expert and manufacturer, Mills, [R. pp. 964-973], who has manufactured and repaired underreamers and is acquainted with the Wilson and Double underreamers as to their construction, and who, upon examining the Complainant's Exhibit Reamer Type "F," states that this Type "F" reamer can be operated without the block, for the reason that without the block there is just as much, if not more, metal than there is in the Wilson reamer, that is, just as much metal in the parts on the forks or prongs at the lower end of the body with which the cutters co-operate or upon which the cutter shoulders rest when the cutters are expanded; and that these surfaces would stand up under the strains imposed by the cutters in operation and resist tendencies to sheer or crush, just as well either with or without the block; that the cutters would be expanded either with or without the block; that the reamer would be better off without the block; that the cutters would not touch the bolt even when contracted nor when expanded; that if the reamer were used with a block in it the block would soon become battered up

and have a tendency to spread the reamer and break the bolt; that the block would tend to shear off the bolt and it would be a difficult matter to remove it; and that after continued use the hole in the block would soon become distorted so the bolt could not be passed through it; and that the block would become worn and stretched out and elongated so it would fit too tight between the prongs, meaning a refitting job or putting in a new block; that he has repaired underreamers and seen them in operation and examined them after they were withdrawn from the well hole. All this shows that the Type "F" reamer would really be a better reamer when used without the block, as Hubbard saw it used, than used with the block. *It is significant that this testimony was not rebutted. It would seem as though our contentions that this block really is a mere subterfuge are borne out by the record, and that defendant in Type "F" reamer has a reamer which infringes claim after claim of the patent in suit found valid but not infringed, being a mere extensive infringement than the other infringing reamers, and using the "prongs" in all the three cases postulated above, with the exception of case 1.*

Further, see the testimony of E. C. Wilson [R. p. 523 *et seq.*], as follows:

"Q. 481. Referring now to Complainant's Exhibit Reamer 'Type 'F,' will you please state, judging from your experience in connection with underreamers and the manufacture, sale and use thereof, whether this underreamer could or could not be operated with the detachable portion at the lower end thereof removed.

A. It could not be operated just the same as the Wilson underreamer can be operated without the safety bolt.

Q. 482. What would be the effect of the removal of such portion with respect to the expansion and contraction of the cutters?

A. The cutters would expand and contract in just the same manner, for the reason that the shoulders of the cutters, namely, those portions which extend at right angles to the shanks of the cutters extend out far enough to ride upon the two prongs of the body and which bearing is sufficient to expand the cutters or to permit them to contract over said bearings.

Q. 483. Then what do you take it to be the mechanical object of the provision of these detachable features in this reamer?

A. The object of the bolt is to form a safety device or precautionary measure against the loss of cutters should this tee upon which the cutters are attached break in use. And it has the additional purpose of preventing the spreading of the prongs if used under abnormal conditions. The block is held in place by this bolt and the purpose of the block is merely an effort on the part of the so-called inventors to evade the Wilson patent.

Q. 484. Do you consider that the provision of this block introduces any feature which differentiates the reamer from the reamer of the Wilson patent in suit in construction and operation? [438]

A. I think not. I am convinced that the block will add nothing whatever to the utility of the tool, and I am convinced that very slight use of the tool would

soon burr the hole in the block, or to so burr the bolt itself as to make it practically impossible to replace the block when it had once been removed. The net result would be that an operator would simply dispense with the use of the block and use only the safety bolt, and as the reamer, as I previously testified, could be used without the block.

Q. 485. You have previously referred to a part of the Double underreamer, or the body of the same, such as is exemplified in 'Complainant's Exhibit Double Reamer and Cutters,' as 'a hollow-slotted extension,' being that portion of the body at the lower end thereof, in connection with which the cutters execute expanding and contracting action. Do you find in such hollow-slotted extension in this reamer known as Complainant's Exhibit Reamer Type 'F' and 'Complainant's Exhibit Defendant's Reamer Type 'F' under pleadings in equity suit No. B-62,' etc.?

A. There is no such hollow-slotted extension in that type of reamer.

Q. 486. Is there in this type of reamer, at the lower end thereof, or is there not, a slot in addition to a hollow?

A. No, sir.

Q. 487. How would you define the part of the block through which the bottom bolt passes? That is, the detachable block?

A. It is merely a piece of metal so constructed as to fit into the bore or opening between the forks and having opposite faces which, when the block is in place, are flush with these bearing faces and spreading-bearing faces of the prongs of the reamer body. The

block has a hole drilled through from side to side through which hole the safety bolt extends and by which [439] means the block is held in place in the body between the prongs.

Q. 488. Can or cannot that hole in such block be properly defined as a hollow and a slot?

A. It certainly cannot.

Mr. Blakeslee: Defendant not being represented as yet, it is assumed that the cross-examination of the witness party Wilson is waived. This closes the deposition of E. C. Wilson.”

From the gist of this testimony the word “not,” in first line of answer to Q. 481, *supra*, clearly is an error and should be omitted.

It has been the policy of this defendant in its piracy to crowd closer and closer to the exact and specific reamer of the Wilson patent in suit. In other words, its infringement has been flagrant and wilful, and this Type “F” reamer particularly evidences such attitude. It is shown in the record at R. pp. 1098 and 1100, and the Wilson reamer at R. pp. 1010 to 1018, inclusive. Infringing reamer “D” is shown at record page 1099. Note the middle body joint, which is not required in Type “F” because it can be assembled at the bottom.

There has been no serious attempt made by defendant, as shown in the testimony of defendant’s expert Knight and discredited alleged quasi-expert Griffin, to deny that the defendant has altered its underreamer to include the structural features and combinations thereof of claims 9 and 19 found infringed; and, resultantly, the

same is true with respect to others of the claims hereinabove discussed and which, we contend, also were infringed. The application which has been made of the patent to the infringing structures, as in the testimony of W. W. Wilson, *supra*, and which has been made in this brief, leaves, it would seem, no room for real argument on this head. The principal argument made by defendant in the lower court as against infringement was that somehow or other there was a difference in the mode of operation as between the Wilson patent reamers and those of defendant. Counsel, however, strongly asserted in the companion case, Union Tool Company *et al.* v. Wilson & Willard Manufacturing Company, 237 Fed., and was sustained in the opinion of the trial court, that the mode of operation of the Wilson underreamer and of the Double underreamer is substantially the same; and in this case we find counsel contending that the mode of operation of the infringing reamers here is the same as that of the Double underreamer or of Defendant's Exhibit Double Patent No. 1. It is not necessary, of course, that the mode of operation be changed in order that infringement take place, *for an infringer may retain his prior mode of operation and simply vary the agencies and instrumentalities and combinations thereof which perform in accordance with the given law of operation.* Broadly speaking that is what defendant did here. It *improved* the mode of operation and amplified it, to include in these reamers the new combinations and features of complainant's invention, as by providing the "lug" elements 2' and the lateral cutter shoulders with the bearing-faces 4³ thereon for co-operation with such lug elements and

the spreading bearing 9 thereon; either with or without the further combined features of the cutter-ways 3 on the body extension and the shoulders 4² on the cutters co-operating with such cutter-ways, which are also used. Certainly, in the operation of reaming the underreamer became superior because of this reorganization in accordance with the Wilson invention. The reasons for that have been amply pointed out above—prevention of rotatory action tending to rip out the cutter-ways, increased cutting zones on the cutters, etc., etc. *That the particular mode of operation or contraction of the cutters to put the reamer into or put it out of condition to operate as an underreamer was not materially or radically altered, is not material.* As a further example or illustration in this respect, it may be pointed out that the substitution in Type “F” infringing underreamer of the single piece key to serve as a seat for the spring surrounding the rod or stem carrying the cutters, for and in the place and stead of the fixed shoulder in the hollow body of the other infringing reamers, while producing in such Type “F” reamer *a new combination and an infringement of the patent now issued to complainant’s assignee May 16, 1916, as hereinabove recited*, just the same as the Wilson reamer was found by the lower court an infringement on the now cancelled Bole patent for that key combination;—nevertheless, such modification of either underreamer to include such key element, did not in any respect change the *mode of operation* of the underreamer, or *the method of expansion and contraction of the cutters*, as will be manifest by comparing the defendant’s Type “F” reamer with the other infringing types. It is

true it provided for a new method of assembling the parts of the reamer at the bottom of the reamer, and permitted remachining, *but it did not change the mode or principle of operation of the underreamers*, nor the mode of expanding and collapsing the same. The testimony of Knight, defendant's expert, will be found replete with allusions to the retention in the infringing underreamers of the mode of operation of the Double patent No. 1. The Wilson underreamer, the subject of the Wilson patent, having been found to infringe the Double patent No. 1, in 237 F., and the modes of operation therefore to have been substantially the same, and defendant's contending that the mode of operation of the infringing reamers is the same as that of Double patent No. 1, the circle of logic is completed for the purposes of this case, and the mode of operation of the infringing reamers must be considered sufficiently equivalent to the mode of operation of the complainant's patented underreamer, for all purposes of finding infringement. This is the defendant's own position we are now stating. But were it open to attack, we still contend, for the reasons above pointed out, that infringement must follow, *for alteration to infringe is manifestly not necessarily followed by change of mode of operation*, as instanced by the underreamer key combination patent. The 'Type "F" reamer, as we see, has further features of change over and above the other infringing types, as to mode of assembling the parts at the bottom of the reamer, remachining the reamer by cutting back its prongs when worn, etc.

Within the doctrine of *Stebler v. Riverside Heights* etc., 205 Fed. 735, *supra*, the defendant has taken

of the substance of the Wilson invention, and has been forced to do so, in order to attempt to keep any of the underreamer business as against the Wilson underreamer competition, rather than to negotiate to obtain a license to use the Wilson invention. In only one respect is the invention of Wilson not utilized to its full advantage in the infringing reamers, and that is with respect to the close collapsion of the cutters between the prongs. In other words, in the Type "F" reamer, the gap or cavity between the prongs is not sufficiently wide. Were it a little wider, the reamer would operate just as well, and this extra advantage of close collapsion of the cutters in the space between the prongs would result. And defendant was driven to infringe in spite of its strong backing in the field by such a concern as Union Oil Co., who first used its Double reamer, but like most everybody else went over to use of the Wilson reamer. [See R. 484 to 488, inclusive.]

At this point we wish to refer, on the general question of infringement, particularly with respect to the coaction of the cutters with the bodies in the earlier defendant's Double infringing types, which, of course, is likewise present in the Type "F" reamer, to the testimony of the complainant, which likewise deals with the extensive adoption of the invention by defendant in the infringing reamers. We quote the testimony of the complainant [R. 127 to 146], as follows:

"Q. 81. When did you first see a Double underreamer with a body and cutters like that of Complain-

ant's Exhibit Improved Double Underreamer Body and Cutters?

A. I think it was during the year 1905. Probably 1905.

Q. 82. Since the time last mentioned, have you kept in touch with the underreamer products of the defendant Union Tool Company and its predecessor, as found in the market?

A. To a certain extent, yes, sir.

Q. 83. What have you to say as to the relative numbers of underreamers, the products of these companies, which you have seen since 1906, that is, the relation between the number of old style Double underreamers and the Improved Double underreamers?

A. The improved Double underreamer has almost entirely superseded the old style. [111]

Q. 84. And can you say of your own knowledge what has been the preference in the oil fields, if there has been any, since the year 1906, as between the old style and the improved Double underreamer?

Mr. Lyon: Objected to as leading and calling for a conclusion of the witness, incompetent, no foundation laid, and the witness is not qualified to answer the question.

Q. 85. (By Mr. Blakeslee.) I will withdraw that question. Since the year 1906, have you kept in touch with the art of underreaming in the fields of California?

A. Yes, sir.

Q. 86. To what extent?

A. To a very considerable extent. It has been my

business to know what the trade demanded and whether it was being supplied.

Q. 87. Have you made any trips to the various fields in California during that period of time?

A. Yes, sir; many of them.

Q. 88. To what fields, for instance, and when?

A. The Coalinga fields repeatedly, Taft or Midway fields, the McKettrick field, the Sunset fields, the Kern River field, the fields between Coalinga and McKittrick, or the Devil's Den country, as it is usually known, the Salt Lake fields of Los Angeles, the Santa Maria field, the Santa Paula field, the Newhall field, the Whittier field and the Fullerton field.

Q. 89. How recently have you made trips to any of these fields, and which?

A. I have been in the Salt Lake field in the last week or ten days.

Q. 90. Any time last winter and a year ago this last winter?

A. Yes, sir; I have been in the Salt Lake fields several times during the last year, and I have been in the Taft field [112] and the Sunset field and Maricopa fields, and one trip, especially, was made during the winter of 1912-13.

Q. 91. What was your mission on that visit last mentioned?

A. For the purpose of obtaining evidence in the suit of the Union Tool Company vs. The Wilson & Willard Manufacturing Company.

Q. 92. Now pending in this court?

A. Now pending in this court.

Q. 93. And what was the subject of that litigation?

A. The Union Tool Company had sued the Wilson & Willard Manufacturing Company for alleged infringement of the Double underreamer patent by the Wilson & Willard Manufacturing Company.

Q. 94. Is that the same company you have referred to in this deposition?

A. It is the same company.

Q. 95. And what class of apparatus did you particularly inspect in those fields at that time?

A. We were inspecting underreamers particularly.

Q. 96. And where was this?

A. That was in the Midway fields and in the Sunset and Maricopa fields.

Q. 97. And what did you find or which type of Double underreamer did you find to be in particular use in those fields?

A. The improved type of the new style Double underreamer, as it is commonly known.

Q. 98. Now, you have testified that you turned out or had turned out the first Wilson underreamer in January or February, 1904. I wish you would state definitely whether prior to that time you ever had seen a Double underreamer of the improved type?

A. I had not. [113]

Q. 99. Will you please now compare Complainant's Exhibit Old Style Double Reamer Cutter No. 1 with cutter Fig. 4, of Complainant's Exhibit Wilson Patent, and a cutter of Complainant's Exhibit Wilson Reamer?

A. You wish me to compare the old-style Double underreamer cutter No. 1 with cutter 4?

Q. 100. Yes. That is the number in the patent. And a cutter of Complainant's Exhibit Wilson Underreamer.

A. The old style Double underreamer cutter consisted essentially of a shank and dovetail shoulder on the sides of the shank of the cutter, and a body at the lower end of the shank, which body is virtually an extension or in a plane of the outer edges of the dovetails of the shank. In other words, practically the same width as the outer faces of the dovetail. The bearing face at the back of the cutter, which face rests against the spreading-bearing of the hollow slotted extension of the Double underreamer body, is so placed as to be at the back of the shank of the cutter, and no bearings extend on the back of the body of the cutter itself, as the back of the body of the cutter did not in any way contact with the reamer body itself. The Double underreamer cutter of the old style type as shown by Complainant's Exhibit Old Style Double Reamer Cutter No. 1, differs from the cutters as revealed by complainant's patent in that the spreading-bearings, or rather the bearings 4³ of the Wilson underreamer cutter, are a part of the cutter body and are integral with the cutter body and not a portion of the shank of the cutter, so to speak, whereas the corresponding bearings or the bearings of the Double underreamer cutter, old style, which coact with the spreading-bearings in the old style Double underreamer body, were placed on the shank only of the cutter. The cutters shown in Complainant's Exhibit Wilson Underreamer are practically the same as those revealed by Complainant's [114] Ex-

hibit Wilson Underreamer Patent, the bearing faces being on the body or extended shoulders of the body instead of on the shanks of the cutter. The Double underreamer cutter, old style, has a V-shaped groove planed across the shank of the cutter, which groove forms the upper boundary of the bearings just referred to in describing the old style Double underreamer cutter. No such groove appears on the cutter of the Wilson underreamer, Complainant's Exhibit or Complainant's Patent.

Q. 101. Will you please now compare the cutters of Complainant's Exhibit Wilson Patent and of Complainant's Exhibit Wilson Underreamer with the cutters of Complainant's Exhibit Improved Double Reamer and Cutters?

A. The improved Double underreamer cutter consists of a shank with dovetail shoulders on the back of the said shank, and the body of the cutter being partially an extension of the shank, and the said body having lateral extensions or projecting shoulders which extend at right angles to the shank and dovetails of the shank and project beyond the extreme outer faces of the dovetails. The improved Double underreamer cutter has bearings on the inner faces of the shoulders of the body, which shoulders project at right angles to the shank and dovetails. This extended shoulder increases the width of the cutter body and the bearings at the back of the cutter which rests against the spreading-bearing of the Double underreamer body when the cutters

I. B. reaming
are expanded into ~~leaning~~ leaning position and are

extended across the entire back of the body of the cutter. In other words, the shoulders which project at right angles from the shank of the cutter and dovetails thereof have bearings on the inner faces of them, which bearing faces coact with the spreading-bearing of the Double underreamer body. In this respect the improved Double underreamer cutter differs from the old style Double underreamer cutter, and also in that respect the improved Double underreamer cutter, is like the cutter of the Wilson underreamer. [115]

Q. 102. Please compare the position or arrangement of the bearing surfaces of the cutters of Complainant's Exhibit Double Improved Reamer and Cutters, with the position or arrangement of the bearing surfaces of the cutter being Complainant's Exhibit Old Style Double Underreamer Cutter No. 1.

A. The old style Double underreamer cutter No. 1 was so constructed as to have all the bearing face which coacts with the spreading bearing of the Double underreamer body placed at the back of the shank and dovetail, and said bearing was in no respect a part of the body of the cutter, the bearing being above the body of the cutter. The corresponding bearing as shown by the improved Double underreamer cutter was transferred further down the shank of the cutter and made to extend and to form the back of the extended shoulders of the cutter body.

Q. 103. Assuming that the cutters, Complainant's Exhibit Improved Double Underreamer and Cutters, were of a proper standard size to fit the body, being Complainant's Exhibit Old Style Double Reamer Body,

would it be possible to apply such cutters to such body for use therewith?

Mr. Lyon: Objected to as leading.

A. No, sir; they would not fit the old style body.

Q. 104. (By Mr. Blakeslee.) And why?

A. For the reason that the new style cutters having the bearing extended downward and forming the upper portion of the entire back of the cutter body, could not fit up into place in the old style reamer body without removing the lower end of the dovetailed recesses in the old style body to permit the extended shoulders ~~to permit~~ of the new style

I. B. Double underreamer cutter to ride up on to the spreading-bearing.

Q. 105. What provision is made, if any, to this end, in the body of Complainant's Exhibit Improved Double Reamer and Cutters? [116]

A. There is a V-shaped groove machined laterally across the end of the underreamer body, whereby the lower end of the dovetail recesses are removed, and which in turn forms a continuous bearing upon which the bearing at the back of the body of the cutters may rest. By these V-shaped grooves the parallel bearing faces of the hollow slotted extension of the reamer body are extended so as to accommodate the widened body of the improved Double underreamer cutter. Furthermore, the portion of the hollow slotted extension which projects downwardly below the upper corner of the V-shaped groove is thereby transformed into a projecting wedge or spreading-bearing, whereby the spreading surfaces of the improved Double underreamer body are extended downwardly until they are

interposed between the bodies of the Double improved underreamer cutters just as at the spreading-bearings Fig. 9 on the prongs of the Wilson underreamer body.

Q. 106. Please state what the co-operation of the cutters of Complainant's Exhibit Improved Double Underreamer and Cutters with the body of that exhibited will be with respect to the various stresses to which the cutters are subjected when the cutters are in expanded position and during the reaming operation?

A. The extended or broadened bearing faces at the lower ends of the parallel bearing faces of the improved Double underreamer body, projecting downwardly until they are interposed between the bodies of the two cutters, transfers the fulcrum or pivotal point to the backs of the bodies of the cutters. That pivotal point is the point at which the greatest stress is applied to the cutters in resisting

I. B. inward

~~the underreamer~~ strain on the cutting edges of the cutters. The upward strain or the endthrust is taken up at the upper ends of the dovetail ways which form the upper boundary of the hollow-slotted extension. The outward strains are taken up on the coacting dovetails of the underreamer cutters and the corresponding dovetails of the underreamer [117] body. The rotating strain applied to the cutters, which strain is caused by the principal force of the blow of the tools being applied at one side of the cutting edge of each of the cutters to a greater degree than happens to be applied to the opposite corner of the cutters, pro-

duces a rotating motion of the cutter within the dovetail, and which rotation is on an axis parallel to the axis of the reamer body. By the extended faces of the parallel bearing-faces of the Double underreamer body and the corresponding extensions of the cutter bodies forming shoulders which extend at right angles to the shank, this rotating strain is taken up on these shoulders at the backs of the cutters instead of on the dovetails only as was formerly done with the old style Double underreamer.

Q. 107. Now, what can you say as to the relative length of life and cutting efficiency or cutting range of the cutters of Complainant's Exhibit Improved Double Reamer and Cutters, with respect to the cutter being Complainant's Exhibit Old Style Double Reamer Cutter No. 1?

A. I have previously explained that the improved Double underreamer cutter having a wider body and a broader cutting surface naturally has more material in it which must be worn out before the cutter becomes useless, unless breakage should occur. The greater amount of material in the improved cutter is bound to prolong the life of the cutter to a greater degree than the narrow and small body of the old I. B. style Double underreamer cutter produced/in evidence/. In order to underream the whole sufficiently for the casting to follow, it was necessary for the underreamer cutters to enlarge the entire circumference of the hole. It is apparent at once that the broader the cutters, or, in other words, the greater the extent of the cutting edges of the under-

reamer cutters, the more of the circumference of the hole is reamed or cut at each stroke of the tools. The wider [118] cutter, of course, reams the hole faster and, furthermore, reams the hole more completely than was accomplished by the old style narrow cutters of the Double underreamer.

(By consent an adjournment is taken until tomorrow, March 25, 1914, at 10 o'clock a. m., at this same place.)

Wednesday, March 25, 1914,
10 o'clock a. m.

This being the time and place to which the taking of proofs in this cause was continued, the proceedings are now resumed.

Present: Raymond Ives Blakeslee, Esq., solicitor for complainant; Frederick S. Lyon, Esq., solicitor for defendant.

Mr. Blakeslee: Amplifying the notice for the taking of the testimony now in progress, which was originally given, it is to be noted that adjournments will be taken from time to time and from place to place as may be necessary to complete the proofs of complainant.

Elihu C. Wilson, complainant herein, recalled as a witness in his own behalf.

Direct Examination (Resumed).

(By Mr. Blakeslee.)

Q. 108. With regard to the cutters of Complainant's Exhibit Improved Double Reamer and Cutters, as to which you have testified that the bodies project beyond the sides or lines of extension of the

sides of the shanks of the cutters forming bearing surfaces, will you please state definitely where the other bearing surfaces on the body of these cutters as to which you have testified are located?

Mr. Lyon: The question is objected to on the ground [119] that it is leading.

A. The other bearing surfaces lie between those bearings which are on the backs of the shoulders of the cutter body and form a continuation of the bearings that are on the backs of the shoulders of the cutters.

Q. 109. (By Mr. Blakeslee.) Please state a little more fully what the actions of these several bearing surfaces are and what relation there is between or among them as to the operative effect produced?

A. The bearings practically unite to form one function of the underreamer cutter. With the exception of a groove planed in the back of the cutter and which groove is a vertical one and in line with the axis of the cutter, the bearings referred to are a single plane.

Q. 110. Does the provision of this bearing surface between two bearing surfaces on the shoulders of these cutters affect the action of the bearing surfaces on the shoulders with respect to their opposing the stresses you have testified about?

A. That is somewhat difficult to say. I should imagine that the groove which is planed vertically across this bearing surface referred to, may possibly better assist in transferring the strains which are resisted by the bearings on the shoulders of the cutters, which strains are applied during the rotating action or strain or are sometimes applied to the cutter as previously explained. By having this part of the

bearing removed there is a possibility that it would avoid a rocking or tilting action of the bearing and make a more substantial rest on the spreading-bearing of the reamer body.

Q. III. Aside from any effect that groove may have, does the provision of the bearing surfaces which lie between the surfaces in the shoulders of each of these cutters affect in [120] any way the action of these bearing surfaces on the shoulders?

Mr. Lyon: The question is objected to on the ground that it is leading.

A. They carry a part of the same strain that is applied to the shoulders.

Q. 112. (By Mr. Blakeslee.) Now, assuming that the intermediate bearing surface, that is, the bearing surface between the bearing surfaces on the shoulders, were removed in these cutters, please state what would be the result with respect to the action of the surfaces on the shoulders?

A. It would throw all of the strain upon the shoulders and would cease to transfer a portion of the wear and a portion of the strain of the inward thrust of the cutters to the intermediate bearings referred to.

Q. 113. Would the resultant action of the bearing surfaces on the shoulders differ in nature or in degree or in both?

Mr. Lyon: The question is objected to on the ground that it is leading and suggestive.

A. It would not differ in nature; it would differ in degree possibly. The bearings at the back of the shoulders of the cutters would be obliged to take up all of the pressure due to the inward strain.

Q. 114. (By Mr. Blakeslee.) Taking these bearing surfaces on the shoulders of these Double cutters of this exhibit by themselves, and comparing them with the bearing surfaces on the shoulders of the cutters of Complainant's Exhibit Wilson Underreamer, please more particularly compare the actions of the same.

A. Their function is practically the same. The inward thrust of the cutter when in reaming position is taken up by the spreading-bearing that is interposed between the cutters, and this spreading-bearing, of course, comes in contact with those bearings at the apex of the shoulders of the cutters in both the Wilson [121] cutter and in the Double underreamer cutters of the improved type. There is a difference in the angularity of these shoulders, but, so far as taking up the inward thrust is concerned, and maintaining the cutters in expanded position with the spreading-bearings of the reamer body interposed between them, their functions are the same.

Q. 115. And how with respect to the resistance by these bearing surfaces of the inthrust stresses and the stresses tending to rotation of the cutters upon their longitudinal axes?

A. By the extension of the spreading-bearings of the back of the Double underreamer cutter, I mean the change which was made in the improved Double underreamer cutter over their old style cutter, whereby the body of the cutters were extended to from shoulders projecting at right angles to the shanks of the cutters. And by utilizing the backs of those shoulders as bearings to rest upon the spreading surfaces of the reamer body, the power to resist the rotating action of

the cutters on their vertical axes was greatly increased. It gives an added leverage to the cutter to offset that rotation, and does more; it throws the principal part of this force or rotating strain upon these projecting shoulders with their bearings at their backs, instead of throwing the strain chiefly upon the dovetail shoulders of the shanks, as is the case with the old style Double underreamer cutters. The Wilson underreamer cutter had that same advantage over I. B. the old style/Double/underreamer cutter, which made a stronger cutter than the old style Double underreamer cutter, and, at the same time, made a wider or broader cutter, increasing the cutting area. The change which Double effected in devising the improved Double underreamer cutter, now gives their improved Double underreamer cutter practically the same advantage in that respect that we claim for the Wilson cutter. [122]

Q. 116. In the cutters of Complainant's Exhibit Wilson underreamer, do you find any shoulder such as you have testified you find in the cutters of the Double underreamer at the back of the cutter or extending across the back of the cutter, which participates in the expanding action of the cutter?

Mr. Lyon: The question is objected to on the ground that it is leading.

A. Yes, sir; I do. The Wilson underreamer cutters, as previously explained, have shoulders which extend at right angles to the shanks, the backs of which shoulders are provided with bearings, which bearings rest upon the coacting spreading-bearing or bearings of the reamer body.

Q. 117. (By Mr. Blakeslee.) Do you find any shoulder part on the cutters of Complainant's Exhibit Wilson Underreamer between the shoulders you have just referred to?

Mr. Lyon: The question is objected to on the ground that it is leading.

A. No, sir; there are none.

Q. 118. (By Mr. Blakeslee.) Now, as to the groove which you have testified to finding in the cutters of Complainant's Exhibit Improved Double Reamer and Cutters, such groove extending lengthwise of the cutter, and being produced through the bearing surfaces, what effect does that have upon the continuity of the bearing surfaces of these cutters?

A. It divides the otherwise single plane into two separate bearings.

Q. 119. Do you find any such groove in the bearing surfaces of the cutter, being Complainant's Exhibit Old Style Double Reamer Cutter No. 1?

A. I do not.

Q. 120. Now, referring to both the old style and improved Double underreamers, as you are acquainted with the same [123] on the market and in the field, briefly state what means are employed for causing the expansion of the cutters in co-operation with the spreading surfaces?

Mr. Lyon: The question is objected to on the ground that it is immaterial in this action, inasmuch as complainant has elected to stand on claims 16 and 17 of Complainant's Exhibit Wilson Patent, which said claims are specifically for an underreamer cutter as an article of manufacture irrespective of other parts

of the underreamer. This objection will be understood as taken and repeated to all questions asked and answers given by this witness which refer to the parts of the reamer other than the cutters *per se*, and will also be understood as taken and repeated to each question asked and answer given by any other witness called on behalf of complainant in this case, without the necessity of hereafter repeating the objection in the record.

Mr. Blakeslee: We object to counsel placing an arbitrary construction upon the specific claims which have been elected for the purpose of proving infringement in this case. And, if counsel insists upon his objection to the determination of any other structural features of the Double reamers, we will ask him if he will at this time stipulate in the spirit of that objection that in the Double reamers of both old type and improved type means are provided and have at all times been provided for causing the expansion of the cutters in connection with the spreading surfaces when the reamers reached the zone of operation or work in the hole. If counsel will so stipulate we will not press that inquiry any farther.

Mr. Lyon: I am not trying this case on behalf of complainant. I stand upon the objection that in view of the election of complainant, so far as the question of infringement is concerned, the form and shape and construction of the cutters are the only things included within either claim 16 or claim 17 of the Wilson patent in suit. [124]

Mr. Blakeslee: The claims speak for themselves, taken in connection with the rest of the patent in suit.

And we will now ask the witness to answer the last question.

A. The cutters are expanded by the upward movement of them produced by the tension of a spring, and which upward movement draws them upwardly over tapered faces of the hollow-slotted extension of the Double underreamer body, to such a position that the bearing surfaces on the backs of the shoulders of the Double underreamer cutters rest upon the parallel bearing faces of the hollow-slotted extension of the reamer body.

Q. 121. (By Mr. Blakeslee.) And when bearing faces of the cutters of the Double underreamers are in contact with the parallel faces of the hollow-slotted extension, are the lateral bearing faces on the extended shoulders in the improved Double underreamer, as exemplified by Complainant's Exhibit Improved Double Reamer and Cutters, in contact with the parallel faces of the hollow-slotted extension?

Mr. Lyon: The question is objected to on the ground that it is leading.

A. They are.

Q. 122. (By Mr. Blakeslee.) When the cutters of the improved Double reamer are in expanded position, please compare the action of the bearing surfaces upon the lateral shoulders of the cutters of the improved Double underreamer with the action of the bearing surfaces upon the shoulders of the cutters of Complainant's Exhibit Wilson Underreamer.

Mr. Lyon: The question is objected to as incompetent, irrelevant and immaterial to any of the issues in this case. The claims upon which complainant rests

his claim of infringement being limited to the cutters or bits as an article of manufacture, and such claims cannot be in any manner limited by the device with which such article of manufacture is used or the manner of such [125] use, the claims not being combination claims but being claims of an article of manufacture.

Mr. Blakeslee: The patent in suit is for an underreamer and we have been particular to reserve as to our charge of infringement the subjects of claim 16 and 17 read in connection with all of the other parts of the patent in suit. The patent is for a machine, in contradistinction to an article of manufacture, in accordance with the clear distinction made in the revised statutes, and we contend and shall contend that claims 16 and 17 are for parts of such machine to be considered in all of their operative relations and functions.

Mr. Lyon: I think counsel understands my objection and it is not proper or necessary to argue it at this stage.

A. When the cutters are fully expanded and up into reaming position, the action of those bearings at the backs of the shoulders of the Double Improved underreamer cutter and those bearings at the back of the shoulders of the Wilson underreamer cutters are precisely the same. Both resist the inward strain applied to the ends of the cutters, and both rest against the spreading-bearing of the reamer body. Both resist the rotating action of the cutters, which rotation is on a vertical axis, which axis is parallel with the axis of the reamer body, and both take up that rotating action, thereby relieving the dovetail of the cutters and corre-

sponding dovetails or grooves of the reamer bodies of that rotating strain.

Q. 123. (By Mr. Blakeslee.) In both the old and improved types of the Double underreamers when the bearing faces upon the cutters move over the parallel sides of the hollow-slotted extensions, please state whether or not any expansion of the cutters is caused solely by this engagement of the spreading surfaces on the cutters with such parallel faces?

A. There is not."

Taking up again the general question of infringement here, it is of course clearly established that infringement may be found, although the infringing device does not obtain the advantages of the patented invention to the fullest extent. A recent and high authority for this is the opinion of the learned Circuit Judge Lacombe, rendered in the Circuit Court of Appeals, Second Circuit, January 11, 1916, *In re Telescope Cot Bed Co. v. Gold Medal Camp Furniture Mfg. Co.*, 229 Fed. 1002, at page 1004. In this case the court said:

"Infringement seems too clear for discussion. In the Jerman cot the slots are in the braces and the pins are on the brackets connected to the legs. In defendant's cot the slots are in the brackets and the pins are on the braces. It is wholly immaterial on which parts of the combination the slots and pins are respectively located so long as they function alike in both structures; this they do because defendant's slots in the brackets are so located that the play of the pins therein is in the same direction as the length of the braces. The amount of this longitudinal play is slightly less in defendant's

structure because the slots are somewhat shorter, but they are long enough to secure a substantial longitudinal play. *Infringement may be found, although the infringing device does not obtain the advantages of an invention to the fullest extent.*

The decree is affirmed, with costs."

Likewise, of course, the inventor is entitled to the exercise of the monopoly of his patent, to prevent infringement, with the consequent enjoyment of any of the advantages flowing from the use of his invention, irrespective of whether (as most of them were in the patent in suit) such advantages be recited in the patent or known to the inventor at the time he filed his application. On this head attention is invited to the recent decision of the Circuit Court of Appeals of the Third Circuit, opinion by Circuit Judge McPherson, in *Gear et al. v. Fairmount Electric & Mfg. Co. et al.*, 231 Federal Reporter, p. 728, in which it was said that the fact that the specification and claims of a patent do not refer to all of the advantages of the invention is not material. The patentee is entitled to the benefit of such advantages, although he may not have mentioned or known of them. On that head the opinion states:

"It is true that the specification and the claims do not refer to all the advantages that seem to accompany the device, but this is not material. If a specification or a claim be sufficient in itself, it need not be all-embracing. It will still be good as far as it goes; and, if it does not go as far as it might have gone, that is the inventor's affair. The evidence before us seems to prove satisfactorily that one advantage of the Williams device

is the facility it affords for narrowing the area of search whenever 'trouble' occurs in an electric circuit; and another advantage is the more effective protection it affords to men busy with repair or inspection. It is readily installed, is harmless if accidentally touched, and can be easily and safely connected and disconnected without the use of tools. The inventor is entitled to reap the benefits of these advantages, although he may not have mentioned them, or even known of them, provided they come to light in operating the device actually described and claimed. The present invention may be narrow—an improvement, rather than a primary thought—but the presumption of validity exists, and the record is unusually bare of evidence to attack it. At the best, the defendants have done no more than raise a doubt concerning the existence of inventive quality, and we think the scale is turned in favor of the patent by the undisputed evidence in reference to its merits and extensive use."

Defendant will insist that because it has not used every attribute of the Wilson invention, it possibly should be excused from infringement because, as it may contend, it did not use the full life-giving principle of such invention. In this connection we called Your Honors' attention to the case of *Parker v. Automatic Machine Co.*, 227 F. R., and particularly to page 452 thereof as pointing the fallacy of any such contention, namely, that the collapshion of the cutters between the prongs is the *essential* or *sine qua non* feature of the Wilson invention. In this case counsel for appellant here was counsel for defendant, and the Honorable Judge Van Fleet of the Northern District of California

found against such contentions, and that it is sufficient if the infringer uses any claimed portion of the invention. We quote from such last identified opinion as follows:

“Defendant’s contention is, in fact, that the so-called ‘elevator’ feature of plaintiff’s device is its ‘life-giving principle,’ and is so essential to the successful operation of the entire combination of correlated parts that without it the machine is not workable, and that consequently ‘there can be no infringement of the Parker patent by any machine which does not employ the same principle of action, to-wit, the elevator principle.’ In this I am unable to accept defendant’s view, but am satisfied that he greatly magnifies the functional value of that element in its relation to the other features of the combination. As I regard it, this feature of the feed mechanism of plaintiff’s device is in no wise essential to its life; nor do the terms of the patent make it so. Any other means of an equivalent nature may be substituted for it and still be within the patent;—”

The concrete issue at bar must be considered, plainly and sensibly, as stated in Walker on Patents, at the end of section 346, 4th edition, page 304, as follows:

“Harmoniously with its decision in *Burr v. Duryee*, the Supreme Court has since had a positive tendency to disregard whatever is abstract and intangible in questions of infringement, and to base its conclusions upon the concrete features of the issues at bar.”

The following authorities to the effect that the patentee is entitled to all the beneficial uses to which his invention can be put, irrespective of his statement

of recognition of the same in his patent specification, bear pointedly upon the case at bar. They go to show how effectively and extensively defendant has taken of the *substance and gist of the Wilson invention*, irrespective of its non-use of the single feature of close collap- sion of the cutters between the prongs. As said in the recent case of *Jackson Fence Co. v. Peerless Wireless Fence Co.*, 228 Fed. 691, at p. 692, syllabus 4:

“A patentee is entitled to the benefit of every function within the scope of the claims and actually possessed by his mechanism, even if he does not know of it at the time of patenting, and it is not necessary that he should enumerate its advantages.”

This is a decision of the Circuit Court of Appeals of the Sixth Circuit, rendered December 7, 1915.

In like vein it is also said as follows in the following authorities:

“A patentee is entitled to all the beneficial uses to which his invention can be put and in order to hold an infringer it is not necessary that he should indicate every use in his statement of the objects of his invention.”

Scott et al. v. Fisher Knitting Mach. Co. et al.,
145 F. 915, 918 (2nd Cir. 1906).

“Where the practical use of an invention dis- closes advantages residing therein which are dif- ferent from the one chiefly in the patentee’s mind, the invention will not on that account fail, if there be to the conception actual advantage, and the structure embodying it evinces patentable inven- tion; for a patentee is entitled, not only to what

he specifically sees, but to what has been brought about by the invention, even though at the time not actually seen.” (Annotated.)

Kuhlman Electric Co. v. General Electric Co.,
147 F. 709, 712 (7th Cir. 1906).

“It is not necessary for a patentee to describe in detail all the beneficial functions which he claims will result from his invention; but it is enough if such functions are evident and obviously contribute to the success of the invention, and they may in such case properly be taken into account, in estimating its novelty and utility. (Decree 146 F. 552 reversed.)”

General Electric Co. v. Bullock Electric Mfg.
Co. *et al.*, 152 F. 427 (6th Cir. 1907).

“Where a patented structure in fact contains a new mode of operation and produces new results, the failure of the patent to state these merits does not prohibit the court from taking them into consideration in determining the question of patentable novelty, nor does it limit the scope of the invention; but the patentee is entitled to the benefit of all of the advantages which such structure possesses over prior structures intended for a similar purpose.”

Warren Steam Pump Co. v. Blake & Knowles
Steam Pump Works, 163 F. 263 (1st Cir.
1908).

“That a particular advantage of a patented device was not claimed or mentioned in the specification will not exclude it from the scope of the patent if it was necessarily achieved by the inven-

tion. (For other cases, see Patents, Cent. Dig., Sec. 243; Dec. Dig., Sec. 167.)”

Kellogg Switchboard & Supply Co. v. Dean Electric Co. *et al.*, 182 F. 991, 998.

“A patentee who has sufficiently described and distinctly claimed his invention is entitled to every use to which his device can be applied, whether he perceived or was aware of all such uses at the time he secured his patent or not. (For other cases, see Patents, Cent. Dig., Sec. 263; Dec. Dig., Sec. 185.)”

Acme Truck & Tool Co. v. Meredith, 183 F. 124.

“A patentee is entitled to the advantages which are inherent in his construction, if such construction is clearly disclosed, although such advantages may not be specifically mentioned in his description or claims. (See Patents, Cent. Dig., Sec. 241; Dec. Dig., Sec. 165.)”

E. H. Angle Regulating Appliance Co. *et al.* v. Alderer, 171 F. 93, 95.

“A patentee is entitled to have his patent considered with reference to an advantage over the prior art necessarily secured by the operation of the device as described, even though such advantage is not specifically claimed or fully set forth in the specification. (For other cases, see Patents, Cent. Dig., Sec. 241; Dec. Dig., Sec. 165.)”

Morgan Engineering Co. v. Alliance Mach. Co., 176 F. 100.

“The fact that an applicant did not recognize or appreciate the real function of his device when he filed his application is no reason for refusing to

give him the benefit of the functions which are actually present in his device where the claims cover his construction.”

Weber Electric Co. v. National Gas & Electric Fixture Co., 204 F. 79, 93.

“An inventor is entitled to all that his patent fairly covers, even though the complete capacity is not recited in the specification and was unknown to him prior to the patent issuing. (For other cases, see Patents Cent. Dig., Sec. 243; Dec. Dig., Sec. 167.)”

Stromberg Motor Devices Co. v. John A. Bender Co., 212 F. 419.

“A patentee is entitled to all uses and properties of his discovery, whether known or disclosed or not. (For other cases, see Patents, Cent. Dig., Sec. 241; Dec. Dig., Sec. 165.)”

Hoskins Mfg. Co. v. General Electric Co., 212 F. 422, 430.

“If appellee’s patent was the first to provide a lever operated gear for a wash tub which reduced the weight of the lid to a negligible quantity, he made such an addition to that art as amounted to invention. It was not necessary that he should have claimed it (the advantage or principle) in specific terms if the device itself disclosed it. (Diamond Rubber Co. v. Consolidated Rubber Tire Co., 220 U. S. 428, 31 Sup. Ct. 444, 55 L. Ed. 527; Kuhlman Electric Co. v. General Electric Co., 147 F. 712).”

Horton Mfg. Co. v. White Lily Mfg. Co., 213 F. 471, 475.

All of this pertains particularly to the various advantages attaching to the use of complainant's invention in defendant's infringing devices, with respect to the interengaging lateral shoulders on the cutters and the spreading-bearings 9 on the lugs 2', the use of the detachable safety bolt 11, either with or without the block, and the ability to assemble the underreamers of the Type "F" construction at the bottom because of the gap or cavity at the bottom of that reamer, and the ability to remachine that reamer when worn. Likewise these authorities are pertinent in respect to all the advantages to be obtained from the use of the broadened cutters and extending cutting zones thereof and like factors, and the prevention of rotatory action causing breaking off or disruption or bending or distortion of the shoulders 2'' constituting the ways 3, and so on through the whole gamut of advantages incident to the adoption by defendant of complainant's invention.

Counsel for defendant in a certain brief filed by him in said companion case pertinent to infringement by complainant's corporation of Defendant's Exhibit Double Patent No. 1, contained certain references to authorities used in that case by counsel in his endeavors to obtain an enlargement of the really limited and specific language of the claims of said Double patent. These citations we quote from as being most applicable for complainant in this case, particularly if they ever could have been applicable for the complainants in said companion case. Such quotation from counsel's said brief is as follows:

“Judge Nelson in *Tatham v. Le Roy*, (2 Blatchf. 486) says:

“Formal changes are nothing,—mere mechanical changes are nothing; all these may be made outside of the description to be found in the patent, and yet the machine, after it had been thus changed in its construction, is still the machine of the patentee, because it contains his invention, the fruits of his mind, and embodies the discovery which he has brought into existence and put into practical operation.”

“As said in *Eck v. Kutz*, 152 Fed. 758:

“The question is whether the inventive idea expressed in the patent has been appropriated; and, if it has, infringement has been made out.”

“As said by the Supreme Court in *Hobbs v. Beach*, 180 U. S. 383;

“If there be one central controlling purpose deducible from all these decisions, and many more that might be quoted, it is the steadfast determination of the court to protect and reward the man who has done something which has actually advanced the condition of mankind, something by which the work of the world is done better and more expeditiously than it was before.”

“The object of the patent law is to secure to inventors a monopoly of what they have actually invented or discovered, and it ought not to be defeated by a too strict and technical adherence to the letter of the statute or by the application of artificial rules of interpretation.”

“*Topliff v. Topliff*, 145 U. S.”

“McLain v. Ortmyer, 141 U. S. 425;

“In a case of doubt, where the claim is fairly susceptible of two constructions, that one will be adopted which will reserve to the patentee the actual invention.”

“Stebler v. Riverside Heights Assn., 205 Fed. 735;

“While the invention is not basic or primary, it is substantial and important, and therefore entitled to a fair range of equivalents.”

There is a particular point to be borne in mind in contemplating this question of infringement in the case at bar, particularly with respect to the term “prongs” as used in the claims found to be infringed, and that is, *that aside from the three aspects in which such prongs are to be considered in construing the patent in suit (as in the three cases postulated above) the very specific pronged construction or bifurcated construction of the body or formation of the body at its lower end with separated spaced forks or furcations, was, in said companion suit, supra, found, and the opinion in that case in 237 Fed. shows that such construction was found, to be the equivalent of the “hollow slotted extension” construction of the underreamer of Defendant’s Exhibit Double Patent No. 1, which was the patent in suit in said companion case. This is res adjudicata, and the doctrine of stare decisis will, of course, obtain until such time and in the event that this Honorable Court shall be moved to reverse the decree in said companion case with a different finding. But it is not necessary even to invoke the findings of the trial court in that case in order to make out such equivalence in the case*

at bar, because in the case at bar *Wilson stands at the head of the class or family or order of practicable and successful underreamers having "prongs" or a lower end formation provided with "prongs" having any one of the three functions postulated in the three cases supra*—that is, having the function of permitting close cutter collapshion between such "prongs" because of their spaced relation; or, second, permitting complete assembling and disassembling of the cutters and other features of the reamer at the bottom of the reamer because of the cavity between the "prongs"; or, third, acting as carrying or connecting or supporting members for the lugs having the spreading bearings for co-acting and co-operating with the lateral shoulders on the cutters, and likewise and at the same time acting as carrying or connecting members for the shoulders forming the ways which co-act with other shoulders on the cutters or the shanks thereof. Therefore Wilson is entitled to a broad interpretation of his patent in this case, with respect to the lower body and cutter aspects and the co-operating cutters and other parts, and all the features thereof, and it should not require any artificial rule of interpretation or any benevolent application of the doctrine of equivalence to find infringement in this case, but the rule of broad interpretation should be applied, and, as said in *Stebler v. Riverside Heights etc. Co. et al.*, 205 Fed. 735, 740:

"The language of these claims is not, as argued by the defendants, to receive a narrow, literal construction. While the invention is not basic or primary, it is substantial and important, and is therefore entitled to a fair range of equivalence."
(Citing Paper Bag Case, 210 U. S. 405.)

In considering these several claims of the patent the possibly specific claiming of the cutters in claims 16 and 17, and the propriety of complainant dividing his claims up into combination and sub-combination or "part" claims, this is warranted by the following language from sections 116 and 117 of Walker on Patents, 4th edition, as follows:

"It is a proper practice to make a generic claim and also a specific claim, in an application for a patent on a generic invention, even where only one species is described in the specification. In such a case, if the inventor's understanding that his invention is primary, turns out to be true, both claims will be valid. But if some invention is afterward discovered in the prior art, which relegates the patent to a secondary place, the specific claim may stand and be valid, though the generic claim is too broad to be maintained. * * *

"The proper practice is to fix upon the new parts, or new combinations, which the described machine contains, and to make a separate claim for each of those parts, and for each of those combinations. * * *

"To secure a particular part of a machine, a claim must specify that part; and to secure a particular combination of some of the parts of a machine, a claim must specify all of those parts, and the description must explain their joint mode of operation, and must state their joint function.

"And a part or a combination may be claimed separately, though it cannot do useful work separately from the residue of the machine or apparatus of which it constitutes a part. Otherwise an infringer might take the most important part of an invention, and by changing the method of

adapting it to its environment, might avoid any charge of infringement. The invention of a needle with an eye near the point is the one essential element of all sewing machines. But the possible mechanisms for operating such a needle are many, and if its inventor had been obliged to make his own mechanism a part of every claim in which his needle was an element, his patent would have been destitute of value to him; though his invention was one of the most valuable in the history of mankind.”

As a matter of fact, when a fair and proper interpretation of the term “prongs” (bearing in mind the explanation of the functions and relations thereof which have been hereinabove made, and bearing in mind that as cited from the authorities above, mere terms and names do not count, but rather functions and performances), the claims found infringed, as we contend do others found valid but not infringed, even *read directly upon the infringing structures*. In this connection it was said in *Rollman Mfg. Co. v. Universal Hardware Works*, 207 Fed., page 99:

“The complainant contends that the claims upon which this suit is based are to be construed as broadly as they read, and, if so, include the horizontal position of the frame and horizontal action of the plunger and knife.”

We further quote from the same authority:

(Syl.) “Where a limitation expressly stated in some of the claims of a patent is omitted from others, it cannot be read into them to avoid a charge of infringement.”

(Syl.) “It is proper for an applicant for a patent to point out in his specification the preferred method of operation of his machine, *but, in the absence of any expression in his claims making such details elements therein, they are not limited thereby.*”

Also on page 98 *et seq.*:

“The complainant’s cherry seeder is constructed in accordance with the drawings accompanying the patent in suit. *The defendant’s machine is admitted to possess all of the elements covered by these claims.* In construction, however, the machines differ in that the complainant’s plunger is made to reciprocate by means of a spring, while that of the defendant reciprocates by means of a crank and cam. The remaining difference between the two machines is that in the complainant’s machine the frame in which the plunger and knife reciprocate is *constructed at an incline to the vertical of about 30 degrees, while that of the defendant’s machine is constructed horizontally.*

“*The complainant contends that the claims upon which the suit is based are to be construed as broadly as they read and, if so, include the horizontal position of the frame and horizontal action of the plunger and knife.*

“For example, as pointed out by complainant’s counsel, claim 3 is limited to ‘a machine comprising an inclined U-shaped standard, a plunger reciprocatingly mounted in said standard and disposed in the same plane of inclination therewith,’ while the claims in suit call for a frame or *standard irrespective of its inclination.*

“Under the ordinary rule of interpretation, the limitation which is expressed in claim 3 and in the

specification cannot be read into claims 8, 9, 10 and 13.”

‘Where a patent contains specific claims for the one form of structure described in the specification and shown in the drawing and also broad and general claims, the latter are not to be so limited as to make them a mere repetition of the specific claims.’ *General Electric Co. v. E. H. Freeman Electric Co.* (C. C.), 190 Fed. 34.

‘Where a limitation expressly in some of the claims of a patent is omitted from others, it cannot be read into them to avoid a charge of infringement.’ *Diamond Match Co. v. Ruby Match Co.* (C. C.), 127 Fed. 341; *Boyer v. Keller Tool Co.*, 127 Fed. 130, 62 C. C. A. 244; *Ryder v. Schlichter*, 126 Fed. 487, 61 C. C. A. 469; *Wilson v. McCormick Co.*, 92 Fed. 167, 34 C. C. A. 280; *Metallic Extraction Co. v. Brown*, 110 Fed. 665, 49 C. C. A. 147.

“As to the defendant’s contention that the claims of the patent are no broader than the details of the patentee’s preferred construction described in the specification, it is difficult to see upon what ground this proposition is based. In order to comply with section 4888 of the Revised Statutes (U. S. Comp. St. 1901, p. 3383), it was necessary that in his specification the applicant should explain the principle thereof and the best mode in which he contemplated applying that principle, and it was therefore prudent, if not necessary, for him to point out some practical preferred method for the operation of the machine, *but, in the absence of any expression in his claim making the details thus pointed out an element therein, they would not under the ordinary rules be limited*

thereby. Eastern Paper Bag Co. v. Continental Paper Bag Co.. (C. C.), 142 Fed. 479.

“The device of the oblique stripper plate, so far as appears, was not present in prior patent devices. Hence the prior art neither limits nor invalidates the claims in suit. Unless the claims of the patent in suit are limited, as contended by the defendant’s expert, to a standard inclined to the vertical at less than a right angle, the defendant under the doctrine of equivalents has infringed. ‘The functional importance of great value,’ which the patentee described in his specification for the inclination of the standard, consists in the fact that the inclination of the standard carries the stripper plate to a point at or beyond a perpendicular drawn from the outward edge of the hopper. This function would obviously be obtained in a degree proportionate to the extent of the inclination of the standard from the perpendicular. It is obvious, therefore, that when the standard operates horizontally, as in defendant’s machine, it is a mere modification or equivalent of the arrangement of the standard described in the specification of the patent. That the functions of the defendant’s construction and that of the patented machine are identical in causing the pulp, in coming in contact with the obliquely disposed stripper plate, to be laterally thrown outside of the hopper, and that there is substantial identity of way of performing the function, is too apparent to require elaboration. It is clearly demonstrated in my opinion that the difference in the way of performing the function is a mere difference in mechanical construction, and that the defendant’s construction is a color-

able change in form of the construction of the complainant. As evidence of prior art cannot be invoked to invalidate the patent, it must be held as to this defendant that the patent in suit is valid and the defendant has infringed.”

The proper method of construing the claims of the Wilson patent is set forth as follows in the recent decision of Hess-Bright Mfg. Co. v. Fichtel *et al.*, 219 Fed., at page 729 (C. C. A.), as follows:

“Such being the case, it follows that the claims granted should receive the construction their language naturally imports (Dodge Needle Co. v. Jones (C. C.), 153 Fed. 189, and 159 Fed. 715, 86 C. C. A. 191), and that no statement or action of the patentee in obtaining his patent estops him from claiming to the full extent what his claims on their face purport.”

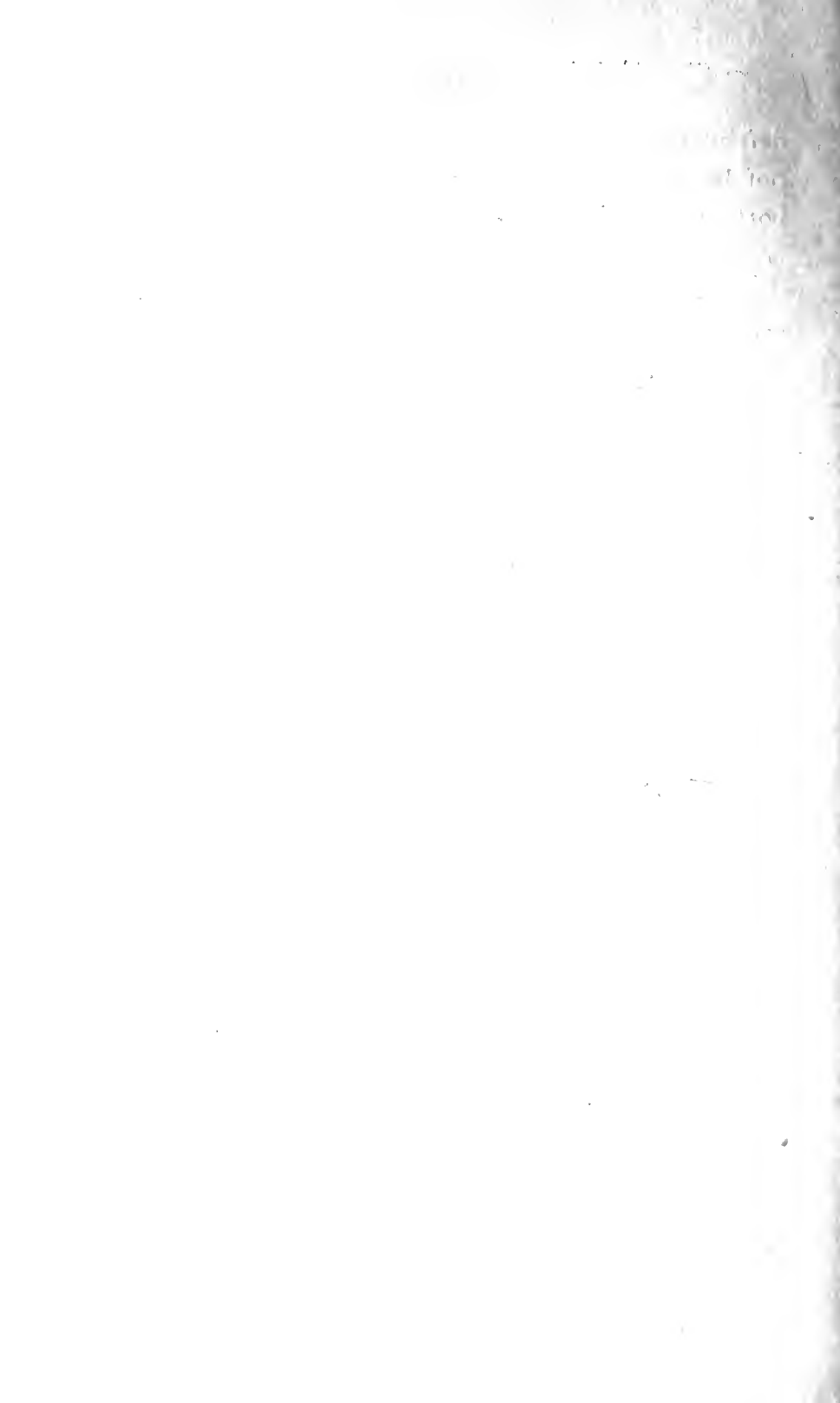
How were claims 9 and 19, which were found infringed, ever in any manner, either by action of the Patent Office, or by acquiescence of the patentee, (and certainly not by the prior art), limited to any specific “prong” construction or to any specific “shoulder” construction, or in any other structural particular? The File Wrapper and Contents of the Wilson patent commencing on R. p. 1023 gives a negation to any such charge or suggestion. The amendments made to claim 9 were merely in elaboration of the subject-matter, or to produce greater fullness of statement, and no amendment whatsoever was made to claim 19. The claims read broad and are broad—they are broad combination claims. And they read in all fairness upon the

defendant's reamers. The breadth of these claims is not be disturbed by any restriction of the broad import in the patent of the term "prongs." *The equivalency* in all respects is *res adjudicata* in the companion case, tried with this case, even if that need be relied upon, *in view of the big stride taken in the art by Wilson and conceded by defendant by its use of the substance thereof.*

Also we quote from *National Tube Co. v. Mark et al.*, 216 Fed. 507, a decision of the Circuit Court of Appeals of the Sixth Circuit, as follows:

(Syl.) "Where a patent contains both a broad and a narrow claim and suit is brought on the broad claim, the court cannot construe into it a limitation not therein expressed, but which is expressed in the narrower claim, and by which alone one is distinguished from the other."

(Syl.) "It is not necessarily important that when the examiner rejects a claim in an application for a patent on a reference to an earlier patent, the applicant thereupon amends the claim, but it is of importance and creates an estoppel against



the patentee only when it additionally appears that the effect of the amendment was to narrow the claim.”

Also on page 514 *et seq.*:

“We find nothing upon the face of the patent requiring the claim to be limited to rolls which had these flanges attached to and integral with the rolls. It is true that neither by drawing nor specification does Fell suggest the performance of this function by stationary parts of the frame, but this is not necessary. In the absence of something clearly showing that the patentee did intend to have his grant confined to a specific form, a broad and generic claim may rightfully stand on a mere specific disclosure; and the invalidity of such a claim (if it is invalid) will result, not from the applicant’s failure to use more sweeping language in his specification, but from the state of the art limiting the actual invention. *The claims are part of the description required by statute, and in them, and not in that part of the description which is now commonly called ‘specification,’ is the proper place in which to define the breadth of the invention, as was most accurately apprehended by Fell’s solicitor when he (though quite unnecessarily) said that various changes might be made ‘without departing from my invention as defined by the appended claims.’*”

And on page 521 further particularly as to claims 16 and 17 not found infringed, and any limitations proper as to them, but not as to the other claims:

“Where a patent contains both a broad and a narrow claim and suit is brought on the broad claim, we cannot construe into it a limitation not

therein expressed, but which is expressed in the narrower claim and by which alone one is distinguished from the other. To do so would be making over the contract between the public and the patentee. *Bresnahan v. Tripp Co.* (C. C. A. 1) 102 Fed. 899, 900, 43 C. C. A. 48; *O'Rourke Co. v. McMullen* (C. C. A. 2), 160 Fed. 933, 939, 940, 88 C. C. A. 115; *National Co. v. American Co.* (C. C. A. 3), 53 Fed. 367, 370, 3 C. C. A. 559; *Lamson v. Hillman* (C. C. A. 7), 123 F. 416, 419, 59 C. C. A. 510; *Mast, Foos & Co. v. Dempster Co.* (C. C. A. 8), 82 Fed. 327, 333, 27 C. C. A. 191; *Duncan v. Cincinnati Co.* (C. C. A. 6), 171 Fed. 656, 663, 96 C. C. A. 400; *Sheffield Co. v. D'Arcy* (C. C. A. 6)."

Also on page 523:

"Our review of these patent office proceedings satisfies us that they furnish no support for the theory of such limitation as will avoid infringement of claims 1, 2 and 3; their whole tendency is in the contrary direction."

We also quote from *Ryder et al. v. Lacey*; 220 Fed. Rep., page 966, as follows:

(Syl.) "Unless a patentee has especially limited himself to a specific form of construction, or such limitation is imposed by the prior art or by the action of the patent office, acquiesced in by him, he is entitled to a broad construction of his claims *in accordance with the language thereof.*"

The broad language of claims 9 and 19 does not permit of limitation of the term "prongs" to *any one* of the three senses or cases herein defined; nor limit the kinds of "shoulders" on the cutters.

Also on page 967:

“The defendant’s structure is plainly *within the broad language* of claim 4 of the Harder patent.”

Also on page 968:

“Harder’s reinforcing strip, as shown, extended from top to bottom; but he did not so limit himself, and a construction which has; (1) A continuous opening from top to bottom; (2) braces between the edges of the walls forming the opening; (3) door sections for receiving sections of doors by which the opening is or may be closed; and (4) reinforcing strips for such door sections whether structurally applied to the walls of the silo perpendicularly or horizontally, and whether applied independently or in combination with the braces and forming a part thereof—infringes the Harder patent as I understand and construe it. These braces and reinforcing strips may be constructed of many shapes and applied in various ways.”

Also on page 969:

“The first, second and third claims of the Harder patent relate to the special and specific construction mentioned in the specifications and to the special form of brace, but the fourth claim in issue here is not so limited.”

Also on page 970 *et seq.*:

“It is evident, I think, that, by departing from the structure alleged to have been erected by Johnson and Allen, Lacey has adopted the idea and construction embodied in the patent to Harder.” * * * “In view of the adjudications and crude state of the art at the time Harder came into the field, and of the fact that Lacey has abandoned the old so-called Allen construction,

conceding it to be accurately described in the answering papers, and of the great importance of the art to the agricultural interests, and hence value of the patent to the inventor, I am constrained to grant the injunction prayed for.” * * * “Unless a patentee has especially limited himself to a specific form of construction, or such limitation is imposed by the state of the prior art, or such limitation was imposed by the action of the patent office in rejecting a broad claim and the substitution and acceptance of a narrower claim by the applicant, *he is entitled to a broad construction of his claims in accordance with the language thereof.*”

Also, we quote from *Bernz v. Schaefer et al.*, 205 Fed. 49, as follows:

(Syl.) “Where the claim of a patent on which a suit is based omits a feature which is contained in other claims not in suit, it cannot be construed as covering such feature, but it must be presumed that it was intentionally differentiated.”

Also on page 51:

“In our opinion, the special office of the second and third claims was to secure combinations containing the pivoted pitman and the pitman-rod described in the specification and omitted from the first claim, and the fact that these claims were added is a very persuasive argument that the additional elements they protect were not secured by the first claim. Any construction which would read into the first claim these additional elements rendered it useless and unmeaning, because it gives it the same effect as the claims which follow it, and in this way shows that neither the patentee nor the patent office contemplated such an interpretation.’”

Also on page 52:

“There is nothing upon this record which would warrant us in attributing to the patentee the folly of having presented, and to the patent office the improvidence of having allowed, two claims for the same thing. The distinction between them must be maintained, that both may be given effect.’ ”

Also, from *Hall Mammoth Incubator Co. v. Teabout*, 205 Fed. 906, as follows, quoting from page 912:

“Unless there are limitations written into the claim or *imposed by the prior art, or by the acceptance of a narrow claim in place of a broad one, in the patent office, in order to secure the patent, the inventor is entitled to every form in which his invention may be copied and to a broad construction.*”

Under section 4888, U. S. R. S., we must determine in looking for infringement whether what the claim *calls for* is found in defendant's structure, that section requiring that the inventor point out in the claims the part, improvement or combination which constitutes his invention; and, of course, we must determine whether the defendant's device is the same kind of device, that is, performs the same functions, in substantially the same manner or in analogous or suitably equivalent manner. It will not avail defendant to draw specific distinctions as between the upwardly and inwardly directed shoulders upon the inner faces of the “prongs” in the defendant's reamers, and the upwardly directed parallel shoulders on the “prongs” of the Wilson patented reamer, nor will it avail defendant to try to limit “prongs” and “shoulders” in broad combi-

nation claims 9 and 19 to *any one specific* meaning or form in the descriptive part of the patent, where the *gist* of the claim reads on defendant's structures. The defendant has taken of the substance of the invention, and, as said in Walker on Patents, section 350, page 308, 4th edition:

“The doctrine of equivalents *may be invoked by any patentee*, whether he claimed equivalents in his claim, or described any in his specification, or omitted to do either or both of those things. The patentee, having described his invention and shown its principles, and claimed it in that form which most perfectly embodies it, is, in contemplation of law, deemed to claim every form in which his invention may be copied, unless he manifests an intention to disclaim some of these forms.” (Citing many cases.)

Where the *principle* of the invention is taken, changes of form will not avoid infringement, unless the form is the distinguishing characteristics of the invention and that cannot be said to be true in any sense with respect to the combinations of complainant's patent appropriated by defendant.

See Wayne Mfg. Co. v. Benbow-Brammer Mfg. Co., 168 Fed. 261 (C. C. A.).

It is of no avail to defendant to say that cutters in underreamers were old, or that it, in and by its Double patent, had a reamer body with shoulders forming ways which co-operated with other shoulders on shanks of cutters. That fragment of the combination was not Wilson's invention. Other parts and fragments of his combination claims *were* his invention. It is our con-

tention these have been appropriated by defendant and his appropriation of the subjects of the combination claims 9 and 19 found infringed is of course not removed from the field of infringement because of the prior existence of *certain* of the features of these combinations. As we have seen in *Yesbera v. Hardesty*, 166 Fed. 120-125, *supra*, the law looks to the combination claim as an entity, and not to its respective parts, in considerations of novelty and invention. *Most* of complainant's patented features such as the prongs in their separated spaced relation, the lugs with their spreading bearings at the lower ends of the "prongs," or body extension, the lateral shoulders upon the cutters with their bearing faces, the detachable crosspiece or safety bolt, the detachable means forming a seat for the lower end of the spring, and the like, *were* features novel with the Wilson invention, and, under the sanction of the authorities, as we have seen, as in *Wright Co. v. Herring-Curtiss Co.*, 204 Fed., *supra*, are separately and subjunctively claimed. "Prongs" is merely a term, like "fork," for designating the extension of the body at its lower end. The Wilson patent is not, in the claims, limited to mere shape. We do not seek to re-form the claims. The defendant rather seeks to evade them.

Even applying the harsh rule of measuring the defendant's devices by the very wording of the claims does not allow defendant to escape. Counsel for defendant would make out that all we would need to do would be to compare the specification and drawing of the patent with the defendant's structures, and then immediately resort to

the doctrine of equivalents. Clearly if the patent claims the invention and the defendant runs also against the inhibition of the claims in their proper interpretation, it infringes. As was said in *Ferry-Hallock Co. v. Hallock*, 142 Fed. 172, where the whole substance of an invention—that which entitled the inventor to a patent—may be copied—may be copied in a different form, it is the duty of the courts to look through the form of an alleged infringing device for the substance which the patent was designed to secure, and where that is found there is infringement.

On the general question of infringement in this case, if on equivalency, we quote from the important *Paper Bag Case*, 210 U. S. 405, as follows:

“The two questions, therefore, which remain for decision, are the jurisdiction of the court and the question of infringement. We will consider the latter question first.

“It does not depend, counsel for the Continental Company says, ‘upon any issue of fact, but does depend, as questions of infringement’ sometimes do, upon a ‘point of law.’ This point of law, it is further said, has been formulated in a decision of this court as follows: ‘Where the patent does not embody a primary invention, but only an improvement on the prior art, and defendant’s machines can be differentiated, the charge of infringement is not sustained.’ Counsel for respondent do not contend that the Liddell invention is primary within the definition given of that term by petitioner. Their concession is that it is ‘not basic, in the sense of covering the first machine ever produced to make self-opening square bags by machinery.’ They do not contend, however,

that it is one of high rank, and if it be given a 'fair construction and scope, no matter whether we call it basic, primary, or broad, or even merely entitled to be construed, as covering obvious mechanical equivalents, the question of infringement of the claims in suit by petitioner's machine becomes mechanically, and from a patent law standpoint, a simple one, in spite of slight differences of operation and of reversal of some of the moving parts.' The lower courts did not designate the invention as either primary or secondary. They did, however, as we shall presently see, decide that it was one of high rank and entitled to a broad range of equivalents. It becomes necessary, therefore, to consider the point of law upon which petitioner contends the question of infringement depends."

"The citation is from *Cimiotti Unhairing Co. Fence Mach. Co. v. Kitselman*, 189 U. S. 47 L. Ed. 1100, 25 Sup. Ct. Rep. 697, and *Kokomo Fence Mach. Co. v. Kitselman*, 189 U. S., 47 L. Ed. 689, 23 Sup. Ct. Rep. 521, was adduced to sustain the proposition. But the whole opinion must be considered, and it will be seen from the language which we shall presently quote that it was not intended to say that the doctrine of equivalents applied only to primary patents.

"We do not think it is necessary to follow counsel for petition in his review of other cases which, he urges, sustain his contention. The right view is expressed in *Miller v. Eagle Mfg. Co.*, 151 U. S. 186, 207, 38 L. Ed. 121, 130, 14 Sup. Ct. Rep. 310, as follows: 'The range of equivalents depends upon the extent and nature of the invention. If the invention is broad or primary in its character, the range of equivalents will be correspond-

ingly broad, under the liberal construction which the courts give to such invention.’ And this was what was decided in *Kokomo Fence Mach. Co. v. Kitselman*, *Cimiotti Unhairing Co. v. American Fur. Ref. Co.*, and *Computing Scale Co. v. Automatic Scale Co.*, 204 U. S. 609, 51 L. Ed. 645, 27 Supt. Ct. Rep. 307. It is from the second of those cases, as we have seen, that the citation is made which petitioner contends the point of law which infringements depends is formulated; but it was said in that case: ‘It is well settled that a greater degree of liberality and a wider range of equivalents are permitted where the patent is of a pioneer character than when the invention is simply an improvement, maybe the last and successful step in the art theretofore partially developed by other inventors in the same field.’

“It is manifest, therefore, that it was not meant to decide that only pioneer patents are entitled to invoke the doctrine of equivalents, but that it was decided that the range of equivalents depends upon and varies with the degree of invention. See *Ives v. Hamilton*, 92 U. S. 426, 23 L. Ed. 494; *Hoyt v. Horne*, 145 U. S. 302, 36 L. Ed. 713, 12 Sup. Ct. Rep. 922; *Deering v. Winona Harvester Wks.*, 155 U. S. 286, 39 L. Ed. 153, 15 Sup. Ct. Rep. 118; *Walker, Patents*, Sec. 362; *Robinson, Patents*, Sec. 258.”

As to proper interpretation of this important patent marking a successful eventuation of the attempts of all others, including Double, to produce a successful underreamer, we refer to the admonition of the Supreme Court in *Keystone Mfg. Co. v. Adams*, 151 U. S. 139, which was couched in the following language:

“But when in a class of machines so widely used as those in question, it is made to appear that at last, after repeated and futile attempts, a machine has been contrived which accomplishes the result desired, and when the patent office has granted a patent to the successful inventor, the court should not be ready to adopt a narrow or astute construction, fatal to the grant.”

See also:

(C. C. Cal., 1910.) If a new combination *and arrangement* of known elements produces a new and beneficial result never attained before, it is evidence of invention, and such result need not be new and useful in a primary sense, but only approximately so. (Note: Patentability of combinations of old elements as dependent on results attained, see note to *National Tube Co. v. Aiken*, 91 C. C. A. 123.)

Beryle v. San Francisco Cornice Co., 181 F. 692, 695.

See also:

(C. C. A., 7th Cir., 1915.) “Invention of a combination does not lie in gathering up the elements that are employed, but consists in first perceiving (through study or experiment or accident) that a new and desirable result may be attained by bringing about a relationship of elements which no one has before perceived and then going forth to find the things that may be utilized in the new required relationship. (*Railroad Supply Co. v. Hart Steel Co.*, 222 Fed. 261.)”

Ritter Dental Mfg. Co. v. S. S. White Dental Mfg. Co., 220 O. G. 349.

(C. C. Pa., 1910.) A new combination, with a new mode of operation, may be invention, even if all the parts thereof are old, and even if the function of the combination is also old.

Eagle Wagon Works v. Columbia Wagon Co.,
181 F. 148.

That a machine shall produce an original result is not necessary to patentability; but, if the new arrangement increases the effectiveness of the old by increased product or by lessening the cost, the fact affords evidence of invention. (See Cent. Dig., Vol. 38, Patents, Sec. 30.)

National Tube Co. v. Aiken, 163 F. 254, 261
(6th Cir., 1908).

And we must bear in mind, particularly with respect to any tendency to specifically construe the word "prongs," that, as said in Comptograph Company v. Universal Accounting Machine Co. *et al.*, 142 Fed. 539:

"If the wording of a claim of a patent is fairly capable of two constructions, one which will sustain the claim and the other defeat it, that which will preserve the invention should be adopted."

The court will of course not confuse any of the issues of infringement by attempting to interpret one claim by means of another or other claims. Each claim stands alone and is in effect a separate patent, as clearly pronounced by the court in Brookfield v. Novelty Glass Co., 170 Fed. 960, C. C. A. Each claim, as therein said, is of course to be construed in connection with the specification and the drawings, but each claim stands alone in its interpretation free from any limitation or variation, in its

proper interpretation, by another claim. This must be so, for were the contrary true, where certain claims are found ambiguous or incorrect or invalid, all of the other claims would perforce fall. The claims cannot be commensurate or else the purpose and office of separately claiming the invention would not exist.

It was also held in *American Steel & Wire Co. of New Jersey v. Denning Wire & Fence Co.*, 160 Fed. 108, affirmed in *Denning Wire & Fence Co. v. American Steel & Wire Co. of New Jersey*, 159 Fed. 793, C. C. A., that a patent is a contract, and the rules for the construction of contracts generally control in its interpretation, and when its terms are plain and the intention of the parties clearly manifest therefrom, they must prevail; but if its expressions are ambiguous, or its validity or any claim is doubtful, that construction will be given which will sustain, rather than destroy, the patent.

Also, in *Krajewski v. Pharr*, 105 Fed. 514, C. C. A., it was held that in construing the claims of a patent the meaning of the language employed must be ascertained by applying it to the subject matter which is described, *and whether a term is used in an exact or only in an approximate sense is to be determined by considering whether exactness is required to accomplish the result to be obtained.*

Also, as held in *Mossberg v. Nutter*, 68 C. C. A. 267, the claims of a patent are to be fairly construed in the light of specification and drawings, so as to cover, if possible, the invention, and thus save it, espe-

cially if it be a meritorious one; and, as held in *Century Electric Co. v. Westinghouse Electric Co.*, 112 C. C. A. 8, the intentions of the parties of a patent should be adduced from the entire contract, not from any part of it, nor without any part of it.

The prior art cannot be brought to bear in any successful attack upon the patent. The fatal objection to that is that each example requires reorganization and recombination in order to bring it anywhere near to the plane of the invention of the patent in suit. As to this we may refer further to *Los Alamitos Sugar Co. v. Carroll*, 173 Fed. 280, in which it was said:

“It is not sufficient to constitute an anticipation that the device relied upon might by a process of modification, reorganization, or combination, be made to accomplish the function performed by the device of the patent.” (C. C. A. Ninth Circuit.)

Also see *Western Electric Co. v. Home Telephone Co.*, 85 Fed. 649, in which the court said, as to any attempts to vary or make over prior devices:

“The force of this ruling is made manifest, in its practical application to the rights of parties, by the reflection that all earlier patents set up in defense against a later patent sued upon are but the record evidence of the state the art has reached. The rights under such later patent are subject to what this record actually shows. To change this record, by permitting theoretical modifications of these earlier patents, would be the same, in force, as to change, by interpolations or modifications, any other evidence between the parties.”

See also *Wales v. Waterbury Mfg. Co.*, 59 Fed. 285, in which it was said:

“One who takes old devices, with material defects, and retaining the desirable features, adapts them by novel modifications to new and varying conditions, so as to produce an article, superior to all others, is not anticipated by such prior devices.”

See also in this connection the leading case of *Topliff v. Topliff*, 145 U. S. 156.

See also:

Gunn v. Bridgeport Brass Co. (C. C.), 148 Fed. 239;

Ryan v. Newark Co. (C. C.), 96 Fed. 100;

Simonds R. M. Co. v. Hathorn Mfg. Co. (C. C.), 90 Fed. 201-208;

Merrow v. Shoemaker (C. C.), 59 Fed. 120.

As said by the Circuit Court of Appeals for the First Circuit, in *Forsyth v. Garlock*, 142 Fed. 461-463:

“Our general observation as to these is that the citation of so many patents by a respondent in an infringement suit sometimes tends, as we have several times said, not so much to weaken the complainant’s position as to strengthen it, by showing that the trade had long and persistently been seeking in vain for what the complainant finally accomplished.”

The defendant here has taken of the substance of the invention and taken it wilfully and it requires no artificial rule of interpretation to find the gist and essence and substantial substance of the complainant’s

invention as patented, embodied and incorporated in defendant's structures. The Double combination has been simply made over into the Wilson combination—that is all.

In answer to appellant's attempts to cloud the issue of infringement here, we call the court's attention to the following language from *Crown Cork and Seal Co. v. Aluminum Stopper Co.*, 108 Fed. 866, in which it is said:

“The court will look through the disguises, however ingenious, to see whether the inventive idea of the original inventor has been appropriated, and whether the defendant's device contains the material features of the patent in suit, and will declare infringement even when those features have been supplemented and modified to such an extent that the defendant may be entitled to a patent for the improvement.”

Counsel for appellant in his final argument on final hearing before the trial court used the following language:

“Now, Your Honor, the question here is, have we changed from the prior art to what Mr. Wilson produced over and above the art? And that is the whole case one way or the other.”

By this test, appellant could not conceal its infringement from the merest tyro in mechanics or patent law. As said in *Hobbs v. Beach*, 180 U. S. 383:

“If there be one central controlling purpose deducible from all these decisions, and many more that might be quoted, it is the steadfast determination of the court to protect and reward the man

who has done something which has actually advanced the condition of mankind, something by which the work of the world is done better and more expeditiously than it was before.”

Defendant Followed Wilson—Not Prior Art.

The “hollow slotted extension” form of lower end of underreamer bodies adopted by Double in Defendant’s Exhibit Double Patent No. 1, under which suit was brought against complainants in the companion case, *supra*, was a form of lower body formation old in the art as in Defendant’s Exhibit O’Donnell and Willard Patent [R. 1004] and Defendant’s Exhibit Swan Patent. [R. 998.] Wilson struck out in radical modification of this formation, and the defendant corporation followed him in modification and alteration, leading up to the production of separate spaced prongs in the Type “F” reamer, and clearly invaded complainant’s monopolized territory in the changes and variations which it made, *even if it did not go the whole route and add the one further advantage of collapsion of cutters between the prongs.* This, as the honorable trial judge has held, *was not the sole and life-giving principle of the Wilson invention by any means.* It may be said that the defendant used easily 90 per cent of the total substance and features of advantage of the patent in suit. To have used one per cent would have been enough—for whether the whole fund or only a part be taken, misappropriation results. As another well-known authority says, defendant here proves the prior art and uses the complainant’s invention.

In the prosecution of another application for patent

filed by the said Double in the United States Patent Office, the Wilson patent in suit was cited against certain of the claims, and this patent had the “hollow slotted extension” form at the lower terminal end of the reamer body. This is with respect to U. S. Patent No. 862,317, and with the permission of the court a certified copy of the file wrapper and contents of that patent will be filed, as the record of a federal department, to show that the patent office recognized the incorporation in the Double underreamer, of the “hollow slotted extension” type, of certain features of the Wilson patent, pertaining particularly to the lugs 2' with their spreading bearing 9 and the lateral shoulders on the cutters with their bearing-faces 4³. This is strong and persuasive evidence of the conversion of the defendant's Double underreamer into a “Wilsonized” underreamer.

Propriety of the Consolidation of Sub-Causes A-4 and B-62, and of the Charge and Findings of Infringement in the Consolidated Cause, as to the Several Types of Reamers of Defendant.

On this head we call the court's particular attention to paragraph III of the interlocutory decree, as follows [R. pp. 88 and 89]:—

“That the two suits Nos. A-4 and B-62 consolidated and joined and merged together to constitute this unitary cause of action were, upon order of the court, duly and properly consolidated, merged and joined together, whereby the pleadings, proofs, proceedings and offers in evidence of the parties in each of such suits became and are the pleadings, evidence, proceedings and

proofs of the parties in such consolidated suit or cause of action, whereby the defendant herein further was, as to any such pleadings, proceedings, evidence and proofs of infringement and wrongdoing charged therein, charged with infringement of claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 19 of the said letters patent No. 827,595."

And also to the following portions of the memorandum of ruling on rehearing:

"Memorandum of Ruling on Rehearing.

Raymond Ives Blakeslee, for complainant.

Frederick S. Lyon, for defendant.

Cushman, District Judge.

Prior to the order consolidating A-4 and B-62, much was said by complainant's counsel in the proceedings in A-4 to support the contention now made by defendant upon its petition for a rehearing; but it must be borne in mind that such statements were made with a view to securing—after the taking of complainant's opening proof, or the greater part of it—a stipulation from defendant's counsel to waive complainant's election (which had been announced early in the taking of such proof) to stand—in A-4—upon claims 16 and 17 of the patent and to discontinue the suit upon the other claims of the patent. The stipulation was not made; B-62 was begun and consolidated with A-4.

All that is said by complainant's counsel, after the commencement of B-62, and especially after the consolidation—upon which statements defendant relies—does not warrant the narrowing in any way of the issues tendered by the allegations of bill in B-62. Especially is this true in view of the notice given by com-

plainant's counsel after such consolidation and before defendant began taking testimony. This notice was as follows: [72]

'Complainant gives notice to the defendant at this time that alternative to any disposition which may be made of equity suit No. B-62, consolidated by the order of the court with equity suit No. A-4, and thus constituting at present the suit known as equity suit No. A-4 consolidated, in which these proceedings are being conducted, namely, any disposition which may be made of said equity suit No. B-62 at the final hearing of this case with respect to such consolidation of said two cases complainant at such final hearing will reply upon claims Nos. 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 19, of the Wilson patent in suit herein. This notice of alternative attitude or position is given at this time in order that defendant may be apprised in the premises before commencing the taking of its proofs.'

That which was said by counsel for complainant after the commencement of B-62 is more reasonably explained by giving effect to the following considerations:

The main purpose in bringing B-62 was, doubtless, to determine the question of the infringement, by Type 'F,' of several claims of the patent withdrawn from consideration in A-4, by the election therein made by complainant to rely entirely on claims Nos. 16 and 17. Further, such statements were rather made as statements of what had been done and said theretofore in A-4 than as announcements of what it was proposed to do in B-62.

Nothing short of a clear, unequivocal election to withdraw or discontinue the suit as to alleged infringements set out in B-62 would suffice to narrow the issues thereby tendered. The discontinuance in A-4 as to other claims—which was worked upon the election to stand upon claims 16 and 17—did not have the effect of a judgment upon the merits, or any other than that of a voluntary nonsuit. [73]

It is not necessary to determine the effect which such election would have had if A-4 had gone to final judgment before B-62 was begun and the consolidation with A-4 ordered. Counsel for complainant having withdrawn by the election, part of his claim for infringement, had a right to withdraw such election, and the rights of the defendant growing out of the election and the proceedings subsequent to such election and prior to notice of its withdrawal, would give no ground for denying complainant's ultimate right to again broaden the issues. The only effect of such election and the proceedings thereafter and prior to notice of its withdrawal, or amendment of election, would be to give the defendant, under certain circumstances, a right to the imposition of terms and the right to demand an opportunity to further cross-examine complainant's witnesses, theretofore testifying. The defendant having made no demand for such opportunity, must be held to have waived the same, and, in consideration of the scope of the cross-examination, the court feels that it was in no way prejudiced thereby.

It is probable if any of the witnesses already examined—whose testimony was relevant to the broadened

issues—had died, the testimony of such witnesses would have to be stricken, or the first suit abandoned and a new one brought. But the court is not called upon to decide such a question. In so far as any question of splitting this cause of action is concerned, that matter was foreclosed by Judge Bledsoe's order denying the motion to dismiss B-62.

Counsel for defendant has again urged upon the court consideration of the merits. The forked formation of complainant's reamer body was essential to the complete collapse of the cutters; but it was not essential to the coercion in the particular in which infringement is found. The fact that, in describing, in the claims, a member of a machine which performs two functions in such a way as to disclose a feature of its [74] fitness to perform one function, which feature is not essential to the discharge of its other function, does not warrant competitors in dropping such feature and thereby appropriate one-half of the invention and its advantage, nor prevent the court from according the patentee such a range of equivalents as will fairly protect him in the substantial merits of his invention. If so, form becomes everything and substance nothing. Rehearing denied."

We believe that appellee's position is sound and stable on these questions, and as they have been thoroughly briefed by appellee before the Honorable Trial Judge both before and after the rehearing order upon which a decision adverse to appellant was made, we beg to quote therefrom with proper alterations to fit the cause as on appeal. Such technical objections as

were raised by appellant are to be disposed of within the spirit of Equity Rule 19, which was manifestly promulgated to that end and which we quote at this place in full:

“The court may at any time, in furtherance of justice, upon such terms as may be just, permit any process, proceeding, pleading or record to be amended, or material supplemental matter to be set forth in an amended or supplemental pleading. The court, at every stage of the proceeding, *must* disregard any error or defect in the proceeding which does not affect the substantial rights of the parties.”

The appellee *never waived any of his rights* under any of the claims of the patent in suit, *but merely elected on the record in A-4* to prosecute his charge of infringement under two claims, 16 and 17. Upon the production of Type “F” underreamer by defendant, the infringement, including that in the other defendant’s reamers, appearing more clearly to involve numerous other claims, a new suit, B-62, was brought electing to stand upon these further claims, and referring to the election as to claims 16 and 17 in A-4, which it was desired not to be further bound by. Appellant moved to dismiss this suit, the second cause, B-62, but the motion was denied. The Honorable Trial Judge says that the matter of alleged splitting up the cause of action under the patent in suit, and therefore the right to further consider same in this case, was foreclosed by such ruling of Judge Bledsoe, who, as we have said, likewise granted complainant’s motion to consolidate the two causes into one suit and to use the proofs

already taken in A-4 in such consolidated cause. And *all* the infringing forms of defendant's reamers had already been offered in evidence in A-4.

All of the claims then, at *any* time elected to be relied upon by complainant, pertain to *all* of the exhibits and *all* the infringing devices of defendant, in this consolidated cause, known in the trial court as *A-4 Consolidated!*

The motion for leave to amend the bill of complaint in B-62 and to consolidate will be found in record, page 37. The motion for order consolidating the causes and the notice thereof will be found on page 26 of the record, and a further motion to consolidate on page 36 of record. The final order consolidating the causes and making the *prima facie* proofs taken the *prima facie* proofs in the consolidated cause will be found on record, page 60. The first consolidating order and order denying motion to dismiss A-4 is on record, page 49. The order denying motion to dismiss amended B-62 bill of complaint is on record, page 51. The order granting motion for leave to amend bill of complaint, etc., in B-62 will be found on record, page 48.

Pursuant to Equity Rule 26 the complainant may join in one bill as many causes of action cognizable in equity, as he may have against the defendant, and as said in *Railroad Supply Co. v. Hart Steel Co., et al.* (C. C. A.), 222 Fed. 261, 267:

“in contemplation of law each claim of the patent must be considered as setting forth a complete and independent invention.” (For other causes, see *Patents, Cent. Dig., Sec. 241; Dec. Dig. 165.*) (Decree 193 Fed. 418 reversed.)

Violation of any of the claims or two groups of claims elected in the respective sub-cases A.4 and B-62 are therefore separate torts. Appellee was warranted in suing appellant for infringement of any claim of his patent, as to *any* violation thereof, irrespective of any prior procedure, and the procedure of appellee was clearly proper, as to filing original bill and moving for consolidation of the two sub-causes, as see the following most pertinent authority:

In *Vigneron et al. v. Auto Time Saver Repair Kit Co.*, 171 Fed. 580, the court said:

“An original bill, in the nature of a supplemental bill, filed by a complainant to bring in new facts, where a supplemental bill would have been proper, may be allowed to stand, where it is stipulated that proofs previously taken may be used, so that the defendant is not prejudiced. (See Equity, Cent. Dig., Sec. 586; Dec. Dig., Sec. 296.)”

The procedure had on the order of the Honorable Judge Bledsoe was strictly in accordance with this authority, inasmuch as *the court ordered that the proofs taken prior to consolidation were to be prima facie proofs of complainant, and therefore defendant was in no way prejudiced.* But our bill in the motion of a supplemental bill was proper, as we shall see.

Further in this connection, as to procedure either by supplemental bill or new bill, on expanding the charge of infringement, see:

Brookfield v. Novelty Mfg. Company, 170 Fed. 960 (C. C. A).

It is appellee's contention that not only the bringing of the *new* bill in B-62, which was likewise in the nature of a supplemental bill, as set forth in the motion for leave to amend the bill of complaint and to consolidate, made in B-62, which motion was granted, such motion stating the said bill of complaint and the amended bill of complaint herein being in the nature of a supplemental bill:—"not only that the bringing of the new bill in B-62 was clearly pursuant to the provisions of Equity Rule 19, but that the court's order denying defendant's motion to dismiss this bill, the court's order granting leave to file the amended bill, and the court's order consolidating B-62 and A-4 (on separate motions brought in the respective sub-suits), and the court's order denying motion to dismiss A-4, all come within the clear provisions of this rule 19. The bill in B-62 was not in fact a supplemental bill. It was a new bill in certain respects, in the nature of a supplemental bill, and the procedure in bringing such new bill was carefully chosen and decided upon in view of all the circumstances, and particularly in view of counsel for appellant's contention *that in suit A-4 appellee would always be considered by appellant to be bound by election as to claims 16 and 17.* The manifest purposes of this rule 19 was to permit an equity suit to be proceeded with and determined upon the merits of the case irrespective of and in disregard of "any error or defect in the proceeding which does not affect the substantial rights of the parties." Therefore, under rules 19, 26 and 34, in spite of the fact that appellant had had its day in court before Judge Bledsoe on these matters, Judge Cushman might have purged the pro-

ceedings of any slightest color of "error" or "defect" which might have appeared to the court to have remained, by the very simple expedient of making an order permitting complainant to file a bill *nunc pro tunc* as of the date of filing the bill in A-4, such bill alleging infringement of the claims relied upon by election on the record in A-4 and in the bill in B-62. As Walker on Patents, Sec. 415, says:

"Section 721 of the revised statutes of the United States provides that 'The laws of the several states, except where the constitution, treaties, or statutes of the United States otherwise require or provide, shall be regarded as rules of decision in trials at common law, in cases where they apply.' Under this section of the revised statutes, these laws of the states will probably have the same effect in a patent suit in a United States court, that they would have in any action of trespass on the case in a state court."

So under sections 469, 470, Code of Civil Procedure of the state of California, even were rules 19, 26 and 34 not plainly to that end, the trial court could have ordered the pleadings herein amended to fit and cover the findings, had it been deemed at all necessary so to do. Our contention is that the appellant is foreclosed on all these matters by the proceedings, both before Judge Cushman, and the discretionary powers conferred upon the trial court in such matters, as under said rules 19, 26 and 34. The merits were considered properly brought before the court, and it is too late to disturb them by any of the skin-saving technical raids of defendant.

It will be seen that all the proofs on behalf of appellant were taken in the consolidated case on a single procedure in that case, the minute order of Judge Bledsoe the 15th day of February, 1915, consolidating A-4 and B-62, stating:

“it is by the court ordered that the motion to consolidate this cause with case No. B-62 Equity, between the same parties be, and the same hereby is granted, and that, accordingly this cause be, and the same hereby is consolidated with said cause No. B-62 Equity Elihu C. Wilson, Complainant, vs. Union Tool Company, Defendant, *under the number and title of said cause A-4-Equity;*”

Likewise it will be further seen from this minute order and the minute order of Judge Bledsoe of the 19th day of April, 1915, that there came before the trial judge for final hearing but *one* consolidated cause, said minute order of February 15, 1915, stating

“defendant being by the court assigned to answer the bills of complaint in this *cause* as now consolidated within thirty (30) days”

And defendant has already answered in A-4! So this consolidated case was now a *new case* in toto!

And in the minute order of April 19, 1915, we find

“it is ordered that defendant have until and including July 31st, 1915, in which to put in its proofs in said consolidated *cause*, and that complainant have until and including August 31st in which to put in its proofs in rebuttal.”

Further in this same order we find “it is ordered by the court, that said proofs may be considered and

treated as complainant's *prima facie* case in the consolidated cause;" so we find defendant taking his proofs "under the number and title of said cause A-4-Equity;—" [Ordered February 15, 1915, on R. p. 50.] Clearly but *one consolidated cause* came before the trial court on final hearing.

In these matters appellee stands upon the minute orders of record, behind which appellant cannot go.

Both the election in A-4 as to the claims 16 and 17, and the notice given on the record to defendant prior to the commencement of its proofs, are matters of record and not of pleadings. The pleadings, also, in no place and in no respect refer to Type "F" or to the Double Improved reamer or to Type "C," "D" or "E," or any of them, *but only refer broadly to infringement by defendant*. Surely the notice given to defendant on the record [p. 541], quoted above, being so given prior to the commencement of the deposition of any witness on behalf of defendant, and given *in consolidated cause A-4*, was sufficient notice under the different pleadings and pursuant to the Court's orders, to put defendant upon its own procedure by inquiry, motion or otherwise, *if it intended to ever thereafter raise any question as to what types of defendant's reamer, or what exhibits, (ALL OF SUCH TYPES AND EXHIBITS NOW BEFORE THE COURT HAVING THERETOFORE BEEN OFFERED AND RECEIVED IN EVIDENCE), were charged to be infringed by these claims and any and all of them*. The position of complainant had certainly been changed by the previously entered orders to consolidate A-4 and B-62, to make the *prima facie* proofs in A-4 those "in the con-

solidated cause,” and permit the pleadings in B-62 to stand, in which pleadings were included charge of infringement of the further claims, including claims 9 and 19, and denying motion to dismiss B-62. Defendant took no steps at this time or thereafter prior to final hearing, and there can be but one presumption and could at that time been but one presumption, namely, that with the pleadings in their then condition, the notice given by complainant on the record before the commencement of defendant’s proofs was a proper notice, as the Honorable Trial Judge found in his opinion, and would go to the full extent of its plain meaning and the meaning of the provision and the sweeping provisions of the amplified pleadings as they then stood. Within the well-known doctrinal duty of a party to “speak out,” defendant should have spoken when this notice was given on the record, within all equity and fairness, had he not been willing that his silence should be considered tantamount to acquiescence and endorsement. Appellant’s contentions that the pleadings and procedure do not support the findings of infringement is clearly against equity, and apparently a mere after-thought, a straw-grasping.

It will be found nowhere in the records or pleadings of this consolidated cause that appellee at any time admitted that appellant did not infringe any of the claims relied upon in the consolidated cause, including claims 9 and 19, or that complainant at any time waived his right to prosecute or charge such infringement. Certainly it was not incumbent upon complainant in this consolidated cause to insist on the record, or in argument before the trial court, in treating of appel-

lant's reamers or appellee's patented reamers, that the pronged Wilson construction was the equivalent of the hollow-slotted extension Double construction. Counsel for appellant before the trial court had so insisted in the companion case tried immediately before this case, and the Honorable Trial Court has so found as a matter of law and fact in the decision in 237 Fed. R., referred to above. That was for the trial judge to find, as he did. Neither the record nor the pleadings raise a barrier against our benefiting by these findings of the court; in fact, the pleadings and notice to defendant manifestly made provision for such finding. Had B-62 been brought merely to cover Type "F" appellant would have included claims 16 and 17 in that bill, and then consolidation would have been unnecessary, and only Type "F" would have been put in evidence. *It was brought to bring in claims 9 and 19, etc., and all of the defendant's types of reamers.* Appellant's counsel's position is and can be only that he did not, or was not capable of, understanding clear pleadings and procedure put into effect and endorsed by Judge Bledsoe, plus clear legal notice on the record. Clearly all of the types found to infringe partake of the substance of complainant's invention. *A finding of infringement as to Type "F" consistently carries with it a finding of infringement as to the other types found to infringe, even if the Type "F" reamer might properly be found further to infringe.* Counsel for appellee stated on the record [R. 122]:

"I don't think it is necessary to concede that there has been no infringement of other claims, but for the purposes of this suit I state that we will

stand solely upon claims 16 and 17 taken together with the other parts of the patent, namely, the specifications and drawings and the other claims in so far as they are merely interpretative of the disclosure. I am dealing now purely with the issue of invention as reflected by said claims subject, of course, to such interpretations thereof as may be made.”

Upon the bringing of our new bill in B-62 which asserted other claims, including those found infringed, the two suits were merged together, the parties were the same, the patent sued under the same, the jurisdiction the same, and the infringing devices complained of in toto the same. Two causes or two groups of causes of action in the two sub-cases were presented and these causes of action were joined in effect into one bill by the order of consolidation, pursuant to rule 26. Judge Bledsoe manifestly applied his discretionary powers under rule 34 on the theory that our second bill was an original bill and likewise an original bill *in the nature of a supplemental bill*. Manifestly he consolidated these cases because of the new pleadings in B-62, and the amended bill in B-62, and because that bill and amended bill were the same in substance as the bill in A-4, with the exception of the allegation in paragraph 5 of the bill in B-62 of the infringement of the letters patent in suit, “particularly as set forth and defined in claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 19 thereof,” and with the further exception of the very important allegation in the amended bill of complaint permitted to be entered in B-62 by Judge Bledsoe, paragraph 5 thereof, to-wit:

"And your orator further shows unto Your Honors that there is pending between the parties to this suit in equity in this same court, another suit in equity entitled Elishu C. Wilson, complainant, vs. Union Tool Company, defendant, No. A-4, in which infringement by the defendant herein is charged with respect to the letters patent sued under herein; that certain proofs have been taken on behalf of complainant in said other suit and an election has been made to stand upon claims sixteen and seventeen of said patent in suit; that since the commencement of taking of proofs in said other suit, defendant herein, and in said other suit, has been found to have departed from its original procedure in the manufacture and sale of underreamers, and to have further and more elaborately infringed the letters patent sued under therein and herein, thereby as your orator alleges upon information and belief, infringing, or further infringing, claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 16 of the said patent therein and herein sued under, all as hereinafter more particularly alleged."

The consolidated cause A-4 was not merely a consolidation for trial. It was a new *entity*.

The minute orders show that the amended bill was permitted to be filed, that defendant's motion to dismiss B-62 and even defendant's motion to dismiss A-4 were denied, that the two suits A-4 and B-62 were consolidated into one *cause*, that complainant was given leave to answer the bills in the consolidated *cause*, and that the *prima facie* proofs in A-4

"may be considered and treated as complainant's *prima facie* case in the consolidated *cause*."
(Minute Order of April 19, 1915.)

The record and files show that the defendant filed an answer to the bill of complaint in each suit. He cannot urge that he did not have full opportunity to interpose any and all defenses he might have had, not only to the patent with respect to the claims elected on the record in A-4 and those further set up in the bill in B-62, but with respect to the entire patent, inasmuch as the bill in A-4 set up the entire patent and the election was only subsequently made *on the record*. Therefore under rule 19 with its broad provisions as to amendments or setting forth of supplemental matter in an amended or supplemental pleading, and with its direction that the court *must* at every stage of the proceeding disregard any mere error or defect in the proceeding which does not affect the substantial rights of the parties; and under rule 26 providing for the joining by the complainant in one bill of as many causes of action in equity as he may have against the defendant; and under the provisions of rule 34 providing for the filing and serving of a supplemental pleading;—under and pursuant to these three rules in particular, and the general doctrines of equitable procedure, Judge Bledsoe with authority, and properly, permitted the new bill in B-62 and the amended bill therein, in the nature of a supplemental bill, to stand, permitted A-4 to stand, consolidated the causes of actions in the two suits, *welding them together particularly by making the prima facie proofs in A-4 with all of the exhibits alleged to be infringed the prima facie proofs of the consolidated cause*, and denied defendant's motion to dismiss B-62 and A-4, thus certainly and effectively curing the election on the record in A-4 as to claims

16 and 17 insofar as it could interfere with the charges of infringement asserted *as to the further claims in B-62*, in effect providing under rule 26 for the presenting by appellee

“in one bill as many causes of action, cognizable in equity, as he may have against the *defendant*.”

And, as to the assertion of the charge of infringement of the further claims set forth in B-62, curing effectively under rule 19

“any error or defect in the proceeding which does not affect the *substantial rights of the parties*”

That it was proper to assert claims further than those elected on the record in A-4, by a new bill *in the nature of a supplemental bill*, see *Leeds & Catlin Co. v. Victor Talking Machine Co.*, 213 U. S., at page 319, quoting from the opinion:

“claims are independent inventions. One may be infringed, others not, and the redress of the patentee is limited to the injury he suffers, not by the abstract rights which have been granted him in other claims. One claim may be valid, all the rest invalid; invalid for want of some essential patentable attribute. But what is good remains and is unaffected by its illegal associates. In such cases the patent does not stand or fall as a unity. If claims may be separable as in the case of infringement of some and not of others; if claims can be separable, though some are invalid, may they not be separable when some of them have expired?”

The bill in B-62 was a *new bill*, insofar as it affected the issues in A-4, nullifying the controlling effect of

the election with respect to claims 16 and 17 in A-4, and setting forth further charges of infringement. Specifically as to any new infringement since the bill in A-4 it was in the nature of a supplemental bill. So, as a bill in the nature of a supplemental bill it was presented for the court's consideration in the motion to consolidate B-62 with A-4 and for leave to file the amended bill in B-62, which motion by complainant recited

“the said bill of complaint and the amended bill of complaint herein being in the nature of a supplemental bill.”.

Thus the bill and amended bill in B-62 were a new bill, presented in order that the captious objections of counsel with respect to our procedure after election *on the record* in A-4 might not be binding upon the procedure with respect to our enlarged charge of infringement, and was properly to be considered as a bill in the nature of a supplemental bill with respect to setting forth further matters of knowledge or charge arising after filing the first bill or after making the election therein.

Such bill and amended bill in B-62 are properly to be considered as an original bill in the nature of a supplemental bill, as see *Harrman-De Laire-Shaffer Co. v. Louders et al.*, 135 Fed. 120, 1st Syl. and p. 121, quoting from opinion:

“The defendants have demurred to an original bill in the nature of a supplemental bill filed by leave of the court. The objection that the bill is a supplemental bill and not an original bill in the nature of a supplemental bill, is without merit. The

bill conforms in form and substance to the requirements of an original bill in the nature of a supplemental bill. Story's Equity Pleading (9th Ed.), Sec. 353; Beach, Modern Eq. Practice, Sec. 512."

It was immaterial what the bill and amended bill in B-62 were called or what specific language was used. It is the *effect* of filing such new bill in the nature of a supplemental bill that is controlling here. It clearly revamped or amplified the pleadings of the resultant *consolidated cause* so as to *put before this court an abiding place or repository for the findings of infringement pertinent to the improved Double reamers in the several forms and types thereof in addition to, as well as including, Type "F."*

Foster's Federal Practice, Sec. 191, sets forth the nature of a bill in the nature of a supplemental bill and says:

"A bill, which complies with the requirements of an original bill in the nature of a supplemental bill, may be sustained as one, although it is styled a supplemental bill."

Also this section states:

"It will not be impertinent for it to *restate allegations of the bill or answer in the original suit, nor to charge new matter which occurred before the original bill was filed*, for the purpose of meeting a defense in the original answer."

That such bill in the nature of a supplemental bill is not dominated by the pleadings and record of the first bill is shown by section 192, Foster's Federal Practice:

“But the probable meaning and the view of the matter best supported by authority are, that upon the filing of what is called a bill in the nature of a supplemental bill, no further benefit of the proceedings in the original suit can be obtained than would be if it were styled merely an original bill; and the evidence and admissions and the benefit of the decree in the former suit will only be allowed when the parties to the second are in privity with those to the first suit.” *Here they are the same.*

The fact that the parties were the same in A-4 and B-62 indicates further that Judge Bledsoe consolidated these suits which would otherwise have been independent in their conduct, *not* merely to simplify procedure, or for *trial*, but, the parties being the same, in order to produce one consolidated *cause* (and not causes) which could not otherwise have been done.

Walker on Patents, Sec. 630, states:

“But the first two sorts of bills” (supplemental bills or bills in the nature of supplemental bills) “are based upon events about the true character of which, counsel may be mistaken in any given case, and it is therefore necessary, in order to avoid an improper accumulation of pleadings, that the court should pass upon the propriety of such bills before they are filed.”

The propriety of B-62 was passed upon on defendant's motion to dismiss it. The further order consolidating B-62 and A-4 *further conclusively endorsed and approved of the bill or bill in the nature of a supplemental bill in B-62 and the amended bill therein.*

Any quibble over the form of the bill in B-62 or of the amended bill in B-62 was thus squelched by the order denying defendant's motion to dismiss B-62, and even A-4, and the order to consolidate B-62 and A-4, and the further cementitious order making the *prima facie proofs* in A-4 the *prima facie proofs* in the *consolidated cause*.

Why did defendant's counsel move to dismiss A-4 also? He must have been temporizing with the court in his presumptuous attempt to shield his guilty clients from any procedure. He hopes by raising enough dust to escape entirely. But it takes a very dusty desert to produce enough dust to cover a dust-raising camel!

Each and every one of the exhibits of the different Double improved reamers, including the Improved Double Reamer and Cutters and Types "D" and "E," as well as "F," were offered in evidence in A-4, and under the court's order were automatically received in evidence in the consolidated cause, and the court said in the minute order of April 19, 1915:

"It is ordered by the court, that said proofs may be considered and treated as complainant's *prima facie case* in the *consolidated cause*;"

Complainant *might* have brought in Type "F" under claims 16 and 17, in A-4, by a supplemental bill or possibly without it. But, to enlarge the scope of charge of infringement as against Type "F" and other Double improved reamers, including "D" and "E," some move had to be made to circumvent the election made on the record in A-4 as to claims 16 and 17, and that move was made as we have seen within the clear meaning

and provisions of rules 19, 26 and 34. And in the bill in B-62 we do not even mention claims 16 and 17 among those alleged infringed; so *B-62 was not brought merely to get Type "F" before the court.*

Within these rules the joining of the separate causes of action with respect to the different claims, the amending or revision or amplifying of the pleadings, and the curing of any technical defect in the proceedings were all accomplished by filing the new bill or the new bill in the nature of a supplemental bill, by obtaining the order of the court approving such bill and its amendment and ordering the consolidation of the two bills or two sub-suits, and making the *prima facie* proofs in A-4 the *prima facie* proofs in the *consolidated cause*. *All of which, with the notice on the record before taking defendant's proofs, created a condition of pleadings and record so clear and unmistakable that defendant cannot at this time or could not heretofore since the minute orders of Judge Bledsoe referred to, raise any contention that the decree in this consolidated cause could not properly cover the full findings of the court in the memorandum decision, in which both Types "D" and "E" and the Improved Double Reamer and Cutters, as well as Type "F," were found to infringe the Wilson patent in suit.*

It is not a question now of what defendant would like to *assume* or *pretend*, or what he somehow *understood* the situation to be on the pleadings and record and files; but rather what the pleadings and record and files actually *are* and what the clear import and controlling effect thereof is.

That merely bringing in a new form might have been accomplished by a mere supplemental bill, see *Westinghouse Air Brake Co. v. Christensen Engineering Co.*, 126 Fed. 764, and *Chicago Grain Door Co. v. Chicago B. & Q. R. Co. et al.*, 137 Fed. 101, citing the last mentioned case *supra*, and particularly on page 105 beginning at:

“A broader rule, however, applies to the taking of the account.”

But complainant brought neither a supplemental bill nor an amended bill, but brought a new bill which may be considered a bill in the nature of a supplemental bill, as pleaded, and it has been merged with the bill in A-4 into the pleadings of a single *consolidated cause* with the permission of the court, such cause having within its proofs and on its record all the exhibits, as to which infringement of any of the claims is charged, *under full notice as to the claims to be relied upon given defendant before any proofs were taken by defendant, and after defendant had answered both bills of complainant as to the entire patent.*

We have seen that it was not in fact necessary for complainant to bring a supplemental bill, even in order to set up Type “F” and bring it within A-4 (*Westinghouse Air Brake Co. v. Christensen Engineering Co.*, 126 Fed. 764, *supra*); but that a new form *might* be brought in a supplemental bill (as held in *Chicago Grain Door Co. v. Chicago B. & Q. R. Co., et al.*, 137 Fed. 101, at page 105, *supra*). Certainly it was not necessary to bring a *new bill* in order to get Type “F” into A-4, *for it had been offered therein. The whole*

question presented to complainant in putting into motion the procedure which involved the filing of a new bill, was the question as to enlarging the charge of infringement over and beyond the election as to claims 16 and 17 made on the record in A-4. The course chosen involved the filing of a new bill, and that new bill, or the amended new bill, in the nature of a supplemental bill, referred to the election in A-4 and plainly referred to it, as in paragraph V above, in order to clearly show the reason for filing the new bill in B-62, namely, to reassert other claims including 9 and 19, upon a showing that the defendant therein, and in A-4, had, since the commencement of taking proofs in A-4, "been found to have departed from its original procedure in the manufacture and sale of underreamers and to have further and more elaborately infringed the Letters Patent sued under therein and herein, thereby as your orator alleges upon information and belief, infringing, or further infringing, claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15 and 19 of the said patent therein and herein sued under,—".

It will be noted that the allegation was *not* that the defendant has been found to have yet further and more elaborately infringed the letters patent *since* the commencement of taking proofs in A-4, but *has been found SINCE the commencing of proofs in A-4, to have departed* from its original procedure in the manufacture and sale of underreamers and to have *further and more elaborately infringed the letters patent sued under*. In other words, what the pleading shows is that complainant since the commencing of taking proofs in A-4 had determined that defendant therein and in B-62 had

more elaborately and further infringed than indicated by the election to stand upon claims 16 and 17 in A-4. Certainly the attempt of counsel for defendant to garble this pleading into an allegation that we stood upon the election in A-4 is absurd, or that we were not *in effect* withdrawing that election, as the pleading recites the election clearly for the purpose of showing that such election would not lead to the full determination of the issues of infringement which complainant has determined since commencing the taking of proofs in A-4 were far more extensive than permitted within the narrow confines of any such election *on the record* as to claims 16 and 17.

Therefore, in the resultant consolidated suit, *complainant is entitled to the full breadth of the pleadings as amplified by the amended new bill in the nature of a supplemental bill in B-62, which Judge Bledsoe permitted to stand presumably, and now, we submit beyond question, in order that the clear intention and purport of such pleadings act to relieve complainant from the election made on the record as to claims 16 and 17 in A-4.* That was the argument made by complainant's counsel on the motion concerned. By complainant's procedure and the court's rulings thereon, the machinery of the court was set into motion to bring all the devices of defendant now found to infringe within the further claims of complainant's patent; and that machinery has automatically, *and with only one precise possible result,* produced such result. *And the trial court has four times now passed upon these questions.*

As we suggested in our brief on re-hearing:

“Your Honor may within the pleadings, and within the spirit of rules 19, 26 and 34, adopt several procedures if Your Honor still believes any defect or error appears, as suggested, *supra*, with respect to permitting a new bill to be filed alleging all of the claims relied upon, including 9 and 19, to be infringed, and to be the bill for the consolidated cause; or Your Honor may for the purpose of complying with rule 19 make *nunc pro tunc* order that the second bill is in effect a supplemental bill because that after consolidation the second bill and all proceedings thereunder were substantially identical with supplemental bill, and the usual objection of unnecessary expense under new original bill as compared to supplemental bill was cured in the present case by consolidation.

Other courses may be open to Your Honor within the purview of rules 19, 26 and 34. But it is not believed that anything has been left undone which could properly have been done to bring the findings of infringement in the memorandum decision fully and completely within the pleadings as they now stand. On either side of the situation complainant must prevail. The consolidation with the order as to *prima facie* proofs for the consolidated cause brought all of the exhibits of defendant's infringing reamers within the pleadings introduced by B-62 and the enlarged charge of infringement thereunder; and likewise the new pleadings in B-62, because of the consolidation, nullified the limiting election as to claims 16 and 17 made in A-4. The order of consolidation made the bill in B-62 substantially a supplemental bill in effect, so that all the defendant's exhibits were brought

under the further claims set up in B-62, as well as those elected in A-4.

Clearly defendant's counsel is at error in attempting to garble the present controversy, if there be any, when he says that the Type 'F' reamer was the cause of the procedure in B-62. Let us see where and how this matter first arose. It is true that while we did not concede there had been no infringement of other claims than 16 and 17 in A-4, we did state that *for the purpose of that suit*, in dealing with the claims, we would stand upon only claims 16 and 17. *But the consolidated suit now before the court, and certainly B-62 was part thereof, is not the suit A-4, and all the proceedings pertinent to consolidation in B-62 and A-4 introduced further causes of action and produced a new suit."*

It will be seen that when Complainant's Exhibit Reamer Type "F" was offered in evidence, the following took place [R. p. 99]:— —

"Mr. Blakeslee: We offer in evidence the reamer just taken apart and discussed by the witness in response to the last question as 'Complainant's Exhibit Reamer Type F.'

Mr. Lyon: Objected to as incompetent, no foundation laid, irrelevant and immaterial to the case.

(The said reamer so offered in evidence is marked as requested, together with the title of the court and cause and the date upon which the same was offered.)"

Surely, no "fuss" was raised by defendant then in the direction of requiring a new suit merely as to Type "F"!

We further find in the record the following discussion of the election with respect to Type "F" reamer, and it is to be borne in mind that we were at that time suggesting to defendant that he *permit* us to depart from the election and had not at that time made any move as to bringing the new bill [R. p. 449]:

"We cannot agree with counsel's statement that we have in any way whatsoever dismissed this suit as to any part of the patent sued under, *which dismissal would be a direct or overt act and not an indirect act*. We do not traverse his contention that we have made an election in *this suit*, but we call his attention to the fact that the bill alleging infringement of the patent generally, is to be presumed as *having been answered likewise generally*; that the election was not made until the taking of proofs commenced in the case, and after the bill was answered; and that no proofs have been taken on behalf of the defendant, so that it cannot be seen wherein the defendant can be taken by surprise, or can in any manner be prejudiced in meeting the *prima facie* case under the pleadings. As this patent has never been adjudicated, we believe proper that it be adjudicated as broadly and completely in this suit as it can be, *commensurate with such proofs of infringement of any part of it as may be produced,—*"

Further on this page it will be found stated:

"We shall be compelled, after pleading our *prima facie* case," (doubtless "pleading" should be "completing") "to petition the court for such relief, or to sanction such further ancillary procedure as may seem proper to *provide for full hearing on the question of infringement by this defendant at the final hearing of this court.*"

Further on page 452, record, will be found statement by counsel for complainant as follows:

“Manifestly it is proper at this time to deal with this exhibit” (Type “F”) “with respect to claims sixteen and seventeen, and upon the final hearing, we of course, shall not urge infringement of other claims of the patent, *or this* exhibit, unless so permitted by the court;”

(That is, other claims of the patent as to *any* exhibit.)

See also remarks of counsel for complainant on page 454, record. See also page 456, record, statement of counsel for complainant—

“Whether or not, further proofs may be necessary in this respect, we will determine and consider, after we shall have made application for such relief or right *to enlarge the scope of inquiry and proof*, which application will be made upon due notice.”

Counsel for defendant then stated same page, as follows:

“It is complainant’s option to file a new suit, or limit its alleged claim of infringement as indicated. If complainant desires to *extend its charge of infringement*, it cannot be done in this suit.”

Didn’t counsel for defendant know what he was discussing?

Now it will be borne in mind that all this discussion was *preliminary* to the filing of the new bill which commenced suit B-62. *In vain must counsel* for defendant search for any reference in the pleadings of B-62, first bill or amended bill, to Type “F” reamer or

any reamer per se. What was discussed on the record prior to that proceeding cannot limit the pleadings resultant upon commencement of such entirely new suit. Nor what was said on the record before the notice to defendant just prior to the proofs and after B-62 was filed. [See memorandum of ruling on rehearing, R. pp. 81-82-83-84.] Again, why did we omit claims 16 and 17 from B-62? They were in A-4. The pleadings speak for themselves, as do the order of consolidation and the order making the prima facie proofs those in B-62 as above discussed. It is true that commencing on page 512, R., and to page 518, R., subsequent to the filing of the bill in B-62 there was discussion, but this discussion was all brought about because of the inquiry on page 513, R., of counsel for defendant, as to the proofs pertinent to Type "F." These discussions did not at all limit the general purport of the pleadings of B-62 nor of the pleadings of the amended bill later filed in B-62. They were had before the court dealt with the matter involved at all. No new statute had been established with the court's approval, as yet. On page 521 of the record will be found this statement by counsel for complainant:

"such proceedings on such motion to consolidate being taken in view of the election by the complainant to stand upon claims 16 and 17 of the claims of the Wilson patent in suit,"—

Then follows the taking of depositions when counsel for defendant even failed to put in appearance, *and the very next reference we have to this matter is the notice given on the record at pages 541, 542, in the consolidated cause, prior to the commencement of*

proofs on behalf of defendant, and in which complainant gives notice unequivocally and without reference to Type "F" or any other type of defendant's reamers that complainant at final hearing would rely upon claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 19 of the Wilson patent in suit. If any interpretation were required of the pleadings in B-62, and the court's orders after the bringing of same, for the assistance and education of counsel for defendant, certainly this notice was all the interpretation that defendant could require or could even ask without requiring. One so well versed in pleading as counsel for the defendant, cannot therefore even plead ignorance of the law or pleadings or ignorance of the intentions of complainant in these respects. The consolidated cause before the court at final hearing was the cause including the pleadings in B-62 and including the amended bill therein in which the reasons for departing from the election in A-4, *without any reference to any type of defendant's reamer*, were set forth as the reasons for bringing B-62. All of the types of defendant's reamers were brought into the consolidated cause by order of the court, and if ever there was a laboriously and consistently and plainly and frankly taken step it was that of complainant on application to the court to be relieved from the election, throughout the entire future proceeding, which election was made on the record in A-4.

What was said on the record either before or after the consolidation of A-4 and B-62 cannot limit complainant under the pleadings, as the opinion of the trial judge on rehearing finds.

Counsel in his each and every reference to the record of proofs, or to argument in trial court, or to brief by complainant before trial court, *cannot find a single concession* that we abandoned the right to prosecute any infringement coming within the claims including 9 and 19 of the consolidated cause. And as pointed out even defendant, by his silence and failure to speak out or move when this notice was given [R. pp. 541-542] of the full number of claims relied upon, acquiesced in and endorsed the procedure of complainant as to enlarging the scope of infringement as to all of the exhibits, and cannot now protest against the same. It will be found that in none of the minute orders annexed hereto and made by the Honorable Judge Bledsoe was there reserved to defendant the right to object at final hearing to the bringing of B-62, defendant's motion to dismiss B-62 having been finally denied. *Only the right was reserved to defendant to move at or before the time of trial to set aside the order of consolidation. This is what the notice in R. pp. 541-542 refers to.* This right defendant's counsel waived on the argument, where he said (as per official transcript of argument):

“The only contest we make on that is that, having gone into the question of the alleged further infringement in A-4, and under the election therein made, the complainant cannot split up his causes of action and divide them into different suits.”

He also says above that:

“Now, if the court please, in that connection we do not contest this order of consolidation on any ground whatever, save one, and that applies to

the bringing of this suit B-62 to the same extent as it does the order of consolidation,”—

Having followed that up by saying that the only contest defendant made was to splitting up the cause of action, defendant clearly abandons his right to object to consolidation, *inasmuch as consolidating the causes prevented the splitting up of the causes of action, if any, so that his objection was cured by the very consolidation to which of course he could not now therefore consistently object. He had no right reserved to object to the bringing of B-62!* Counsel further waived his right to object to the order on consolidation at or before final hearing, when he said at final argument:

“counsel need pay no attention to any portion of the proceedings on consolidation here save and except that one feature, and that goes to his entire right, under the record which will be read here, to maintain B-62 in any case.”

This objection was not reserved to him to make, and he thereby waived his objection otherwise to the consolidation. (See minute orders.)

It is to be said that while complainant had full knowledge of the infringement by defendant in making the Double Improved reamer, none of these reamers with the exception of that like the improved Double reamer and cutters and possibly Type “C” had come onto the market prior to the commencement of A-4. “D” and “E” and “F” had not. The defendant was more and more closely approaching complainant’s patented invention. Furthermore, complainant did not desire to prosecute his charges of infringement until the com-

plainants in the companion suit had commenced activity under their suit filed in 1908, which was dismissed for want of prosecution. It was not five months after taking of testimony was commenced in that companion suit, refiled, before the bill was filed in A-4.

We had a good cause of action in A-4 when it was brought, under the whole patent, and a good cause of action in B-62, and both causes were consolidated in a cause of action found to exist in the consolidated case. Of course as to any alleged concession or stipulation that the appellant's reamers did not infringe any claims under the Wilson patent except claims 16 and 17, that matter has been entirely disposed of above, and we specifically did not concede anything of the sort. That whole position was cured by the proceedings in B-62 on consolidation.

On the rehearing proceeding, there was annexed to brief for complainant a memorandum for complainant on settlement of decree at final hearing, signed by Frederick S. Duncan, Esq., who thus appeared on the brief and as of counsel for the complainant, in which capacity he signed such memorandum. This memorandum was prepared at request of complainant's counsel, by this able and experienced New York patent law practitioner, to whom by mail and wire a general outline of the situation pertinent to consolidation of causes A-4 and B-62 was submitted. We solicit Your Honors' kind consideration to Mr. Duncan's separate opinion containing many strong supporting authorities and further views on this question of the merger of the two suits and the attendant procedure. It may be stated that Mr. Duncan was of counsel in the important

Weed Chain Tire cases involving anti-skid chains used universally on automobile wheels, and prosecuted largely the litigation which established the patents on such devices. A few of the reported cases in which Mr. Duncan has appeared are as follows:

- Brickerhoff v. Holland Bldg. Assoc., 121 Fed. 1022;
- Brickerhoff v. Holland Trust Co., 146 Fed. 203;
- Curtain Supply Co. v. Keeler, 131 Fed. 871, 137 Fed. 911;
- Simplex v. Leonard, 147 Fed. 744, 148 Fed. 1023, 180 Fed. 763, 200 Fed. 581;
- Ironclad Mfg. Co. v. Orange Co. Milk Assoc., 138 Fed. 123, 202 U. S. 623;
- Chadeloid v. DeRonde, 146 Fed. 988;
- Chadeloid v. Daxe, 180 Fed. 1004;
- Chadeloid v. Thurston, 220 Fed. 685;
- Chadeloid v. Wilson, 220 Fed. 681, 224 Fed. 481;
- Parsons v. Victor, 164 Fed. 617;
- Parsons v. Times Sq., 168 Fed. 1023;
- Parsons v. Willis, 176 Fed. 176, 190 Fed. 333, 192 Fed. 47, 209 Fed. 227;
- Weed v. Excelsior, 179 Fed. 232, 192 Fed. 35, 223 U. S. 727;
- Parsons v. Seneca, 192 Fed. 46;
- Weed v. Pitts, 192 Fed. 41;
- Weed v. Atlas, 194 Fed. 448, 198 Fed. 399;
- Weed v. Cleveland, 196 Fed. 213;
- Parsons v. Asch, 196 Fed. 215;
- Parsons v. McKinnon, 196 Fed. 218;
- Parsons v. Foot, 196 Fed. 951;
- Parsons v. Channon, 203 Fed. 862;
- Weed v. Perry, 215 Fed. 921, 235 U. S. 698;
- Parsons v. Lewis, 230 Fed. 637.

Mr. Duncan's brief here follows:

"United States Circuit Court, Southern District of California, Southern Division.

Elihu C. Wilson, Complainant, vs. Union Tool Company, Defendant.

In equity.

Consolidated cases Nos. A-4-B-62. (Known as A-4 consolidated.)

MEMORANDUM FOR COMPLAINANT ON SETTLEMENT OF DECREE AT FINAL HEARING.

STATEMENT OF FACTS.

B brings an infringement suit in equity by a bill referring generally to the patent and not specifying any particular claims or any particular infringing device. The defendant A answers denying the validity of the patent and infringement. When the taking of proofs commences, B having knowledge only of one infringing device made by A, which will hereafter be called device No. 1, announces on the record his election to rely on two specified claims of the patent. B offers in evidence A's device No. 1. As the taking of proofs progresses, B becomes aware of other infringing devices Nos. 2 and 3 made by the defendant A which devices B considers infringements of additional claims of the patent in suit as well as of the claims mentioned in the notice of election. B thereupon offers in evidence newly discovered devices 2 and 3. The pleadings in this suit were broad enough to cover any infringing devices and to cover any claims of the patent, but complainant's notice of election given at the commencement of complainant's proofs limited the suit to two claims above specified.

B then commenced a new suit in equity under the same patent alleging the pendency of the first suit and B's election therein to rely on the two claims specified. The second bill also alleges that other infringements had been discovered by B since the commencement of the first suit which devices infringe additional claims not specified in the notice of election in the first suit. The pleadings in the second suit are broad enough to cover any infringement of the new claims specified including not only the recently discovered infringements *but also the original infringement*. The difference between suit one and suit two therefore is that the bill in suit two specifies certain claims outside of those to which suit one was limited by complainant's notice of election at the commencement of complainant's proofs.

Then A moved to dismiss the second suit which motion was denied by the court. At the same time B moved to consolidate the two suits. The motion to consolidate referred to the second bill brought by B *as in the nature of a supplemental bill intended to bring into question infringement of the additional claims of the patent not specified in the notice of election in the first suit*. The court granted the motion to consolidate reserving to the defendant A the right to object at final hearing to the consolidation, the court directing that the *prima facie* proofs already taken in the first suit should be *prima facie* proofs in the second suit and gave defendant leave to answer the consolidated cause, which answer was in due time filed by defendant. B re-offered in the consolidated suit one of the exhibits previously offered in the first suit, namely, that form of defendant's device which seemed to B to infringe most

of the claims of the patent in suit (device No. 3). This re-offer was, however, a matter of extra caution and unnecessary inasmuch as under the order of the court, complainant's entire *prima facie* record in the first suit became part of complainant's *prima facie* in the second suit and *all exhibits offered in the first suit therefore became exhibits in the second suit*, including not only device No. 3 which was formally re-offered, but *also defendant's other devices including device No. 1*, which was the first exhibit to be offered in the first suit.

Before the commencement of defendant's proofs in the consolidated suit, complainant gave notice that he relied upon the two claims specified in the notice of election in the first suit and also upon the additional claims specified in the second bill and defendant's answering proofs were therefore taken with full knowledge that all of the claims were involved. Defendant also had full notice (1) that all of the defendant's devices offered in evidence in the first suit were charged with infringing the two claims there relied on, and (2) that all of the *prima facie* proofs in the first case became, under the order of the court, *prima facie* proofs in the second case and that therefore all of the complainant's exhibits in the first case were exhibits in the second case.

In due time the consolidated suits were brought to final hearing and an opinion filed holding all of defendant's devices to infringe claims of the patent in suit. A decree was ordered corresponding with the opinion. The defendant A, having waived its right to object to the consolidation of the two suits, attacks the bringing of the second suit by B and moves for a re-

hearing as to the scope of the decree. Apparently defendant takes the position that both suits should be dismissed and complainant be compelled to bring a new suit, or at any rate that only device No. 3 which was re-offered by complainant in the second suit can be made the subject matter of the decree and that the other devices which were offered in evidence in the first suit and which the court had found to infringe claims specified in the second suit cannot be covered by the decree.

DEFENDANT HAS HAD HIS FULL HEARING ON THE MERITS AS TO ALL CLAIMS OF THE PATENT AND AS TO ALL OF DEFENDANT'S DEVICES.

In spite of the many technicalities relied upon by defendant, the fact remains that the defendant has had his full day in court as to all of the devices which complainant now seeks to enjoin. Defendant has had full and ample notice prior to the commencement of its proofs that complainant relied upon all claims mentioned in its notice of election in the first suit and in its bill in the second suit. Defendant knew that complainant had put all of defendant's forms of devices in evidence in the first suit charging the same to be infringements. Also that by order of the court, complainant's *prima facie* proofs in the first case became *prima facie* proofs in the second case and that therefore all of complainant's exhibits in the first suit became exhibits in the second case. From the standpoint either of the first case or of the second case, defendant had full notice that all of its devices were involved and had full opportunity to present all defenses it desired in respect to any of the claims involved or any of the de-

vices referred to. Thus whatever technical questions may be raised, it is clear that in substance all the issues between complainant and defendant under all of the claims involved in either suit and as to all of the devices involved in either suit have been thoroughly tried and decided on the merits.

Under such conditions it would be a reproach to the administration of justice if when both parties had been heard upon the merits on all of the questions and those questions had been fully decided by the court, technical considerations should be allowed to interfere with the rendering of a decree in accordance with the decision reached and covering all points disposed of. It is not believed that any technical objection raised by the defendant will necessitate so inequitable a course.

EQUITY RULE 19 GIVES THE COURT FULL POWER TO
RENDER AN APPROPRIATE DECREE BRUSHING
ASIDE TECHNICALITIES.

At the time of the promulgation by the Supreme Court of the new equity rules, it was announced by that tribunal that one of the purposes of these rules was to do away with technicalities and to promote the speedy administration of justice and to render all decisions on the merits in the promptest manner and with the least expense. To that end forms of pleadings and other technical rules were to be abolished and the courts were given wide discretion to follow such procedure as would eliminate useless expense and technicalities and would enable litigants and the courts to arrive at final disposition of cases on the merits in the quickest and least expensive manner. One of the im-

portant rules adopted at that time was rule 19 reading as follows :

AMENDMENTS GENERALLY.

The court may *at any time* in furtherance of justice upon such terms as may be just, permit any process, *proceeding, pleading* or *record* to be amended or material supplemental matter to be set forth in amended or supplemental pleading. *The court at every stage of the cause* must disregard any error defect in the proceeding which does not affect the substantial rights of the parties.

This rule directly applies to the present situation. Both parties have been fully heard on the merits of the question whether the defendant's devices (Nos. 1, 2 and 3) infringe not only the two claims relied on in the first suit, but also the additional claims relied on in the second suit. Before defendant took any proofs it had full notice that all claims were relied upon and knew that all devices had been put in evidence. Defendant took such proofs as it desired on the claims involved and the infringements referred to and the court after a full hearing has decided all these questions of infringement. It certainly is now within the power of the court to disregard any technical objections and to enter a decree in accordance with its findings upon the questions that were presented to the court and have been decided by it. If necessary, the court may allow any amendment to the pleadings, proceedings or record, or the filing of any supplemental pleading that may be necessary or desirable to overcome any purely technical objection and permit the de-

cree to be rendered in accordance with the questions already decided on the merits.

Before determining whether any amendment of the pleadings, proceedings or record is necessary, certain considerations should be brought to the attention of the court.

COMPLAINANT WAS TECHNICALLY CORRECT IN BRINGING TWO SUITS UNDER DIFFERENT CLAIMS OF THE PATENT.

Defendant contends that two suits cannot lie at the same time by the same plaintiff against the same defendant under the same patent and therefore insists that either both suits must be dismissed or that only some partial decree can be made under one of the suits to the exclusion of questions involved in the other. While no doubt it is the usual rule and from many standpoints the desirable practice that any second claim made by a plaintiff against the same defendant under a patent under which a suit is already pending should be advanced by way of supplemental bill rather than by an independent suit, the courts clearly recognize that in appropriate cases a second suit may lie. In *Chicago Grain Company vs. Chicago R. R.*, 137 Fed. 101, Judge Sanborn stated:

“The question is thus presented whether a new independent infringement, not by a change or modification of the existing or non-infringing device, but by an entirely separate one, can be introduced into the case by supplemental bill or whether a new suit is not necessary.”

Throughout the elaborate discussion of cases that follows, Judge Sanborn recognizes the right to bring

a new suit, but finally decides that if complainant prefers to bring a supplemental bill, he should be allowed so to do because of the saving of time, expense and effort to the parties and to the court.

In *Walker vs. Miller*, 146 Fed. 249, the court recognizes that in some cases of new and independent infringement subsequent to the commencement of a suit, questions may arise of such nature that:

‘neither the master nor the court will feel justified in going into them and where the complainant may properly be put to at least a supplemental if not a new bill.’

In *Houghton vs. Whitin*, 161 Fed. 561, the court throughout the entire discussion recognizes the propriety of the complainant filing a new bill, if it so desired, but held that complainant was entitled to the quicker and less expensive procedure of a supplemental bill if it so preferred.

In *Johns vs. Wilson*, 180 U. S. 440 at 451, the court says:

‘While it is possible that the mortgagee might have been able to obtain relief by an amended bill in the original suit, a new action is a proper remedy where he has been mistaken in his facts.
* * * An amended or supplemental bill is rather an alternative than an only remedy, and a failure to pursue this course ought not to debar him from resorting to another bill.’

In this connection attention is also called to the ruling of the Supreme Court in *Leeds vs. Victor*, 213 U. S. at page 390, as follows:

‘Claims are independent inventions. One may be infringed, others not, and the redress of the patentee is limited to the injury he suffers, not by the abstract rights which have been granted him in other claims. One claim may be valid, all the rest invalid; invalid for the want of some essential patentable attribute. But what is good remains and is unaffected by its illegal associates. In such cases the patent does not stand or fall as a unity. If claims may be separable as in the case of infringement of some and not of others; if claims can be separable though some are invalid, may they not be separable when some of them have expired?’.

From this it follows that the several claims of a patent are independent and separable and give distinct causes of action which would entitle the patentee to commence different suits under different claims. Of course in most cases such procedure would justify the court in consolidating such suits, but such right on the part of the court does not militate against the privilege of the complainant to bring separate suits under separate claims.

It would seem, therefore, that the complainant in the present suit was justified in bringing the two suits under the same patent, the first having been limited by notice on the record to two claims and the second having been limited by the bill itself to certain additional claims therein specified. From the technical standpoint, defendant’s objection to the commencement of the two suits is not a good one and on the merits such objection was completely met by the action of the court in consolidating the causes by which order the

two suits were made one with no extra expense to the defendant than would have been involved in defending the original suit had the notice of election of claims been amended or had a supplemental bill been filed.

But complainant's rights on this rehearing are not dependent upon its right to maintain two separate suits under the same patent. Whatever objection might originally have been urged to such course was overcome by the order of consolidation.

THE CONSOLIDATION OF THE TWO CAUSES RENDERED
THE SECOND SUIT IN SUBSTANCE A SUPPLEMENTAL
PROCEEDING.

Of the court's right to consolidate two suits against the same defendant brought under the same patent whether involving different claims or different devices, there can be no doubt. Section 921 of the Revised Statutes as interpreted by the Supreme Court in the case of *Mutual Life vs. Hillman*, 145 U. S. 285 at 293, by the *Circuit Court of Appeals, 6th Circuit, in Toledo vs. Continental*, 95 Fed. 497 at 505 and 506, confers ample powers upon the court.

In moving for the consolidation, complainant indicated that the second bill was in the nature of a supplemental bill. The effect of the order of consolidation was to make that bill and all proceedings thereunder supplemental to the bill and proceedings in the original case. The order was to the effect that the two cases be thereafter carried on as one; that the defendant have leave to file a new amended answer covering the new matter introduced by the second bill, involving no doubt the right to further answer the matter set up in the original bill. The order further provided that the

prima facie proofs taken by complainant in the first case should become *prima facie* proofs for complainant in the second case.

THE COURT SHOULD RENDER A DECREE COVERING ALL DEVICES AND ALL CLAIMS INVOLVED IN EITHER SUIT.

Assuming that complainant at his election was entitled to bring the second suit under the same patent, then we have the situation of two suits under different claims of the same patent which suits were consolidated by order of court and thereafter proceeded as a single suit. The court can then treat these two suits as literally one suit and enter a single decree; or can treat the two suits as independent proceedings carried on side by side with evidence taken in either suit constituting evidence in the other suit and forming a single record upon which both suits were heard at the same time. In *Toledo v. Continental*, 95 Fed. Rep. 497 at 505-506 the Circuit Court of Appeals, Sixth Circuit points out that, particularly where suits against separate defendants are consolidated the two suits are carried on as separate proceedings although the evidence in one suit becomes evidence in the other and also points out that unless otherwise directed by the court separate decrees should be made in the two consolidated suits. But it is also clear from this case and from other similar authorities that where two suits by the same plaintiff against the same defendant are consolidated the court can properly treat the consolidated proceeding as a single suit and enter a single decree. Such procedure can properly be followed in the present case. If thought necessary, the court may amend the

order of consolidation so as to provide not only that the *prima facie* proofs in the first case shall constitute *prima facie* proofs in the second case, that the two suits are thereafter to proceed simultaneously with further proofs in the consolidated case constituting proofs in both suits and that the consolidated suit should be heard together, but also that a single decree should be entered in the two suits. It is not, however, thought necessary that any such amendment of the consolidation order should be made.

Assuming on the other hand that technically a second independent suit should not have been brought by complainant under the same patent as the first suit but that complainant should have filed a supplemental bill or should have amended his proceedings in the first suit so as to bring all of the claims into that suit, it none the less is clear that subsequent proceedings have cured any technical defect and that the court is entitled to enter an appropriate decree covering all devices found to infringe any of the claims. It has already been pointed out that when the complainant moved to consolidate the two suits he announced that the second suit was in the nature of a supplemental proceeding. In any event when the court granted the motion to consolidate the second suit became to all intents and purposes part of the first suit. Whether it be considered that the second bill was supplemental to the first bill or whether it in effect amended complainant's notice of election of claims in the first suit, is immaterial. The fact remains that before defendant was called upon to answer the second bill the two proceedings had in effect become one. The second suit had by order of court been

consolidated with the first suit, the *prima facie* proofs in the first suit had been made *prima facie* proofs for complainant in the second suit and it was ordered that thereafter the two suits should proceed together. The defendant was given leave to file an answer which defendant proceeded to do with the same force and effect as if answering a supplemental or amended bill. Before defendant commenced to take any proofs, complainant repeated on the record formal notice that complainant was relying upon all of the claims mentioned in the original notice of election and also in the second bill. Thus defendant was in no way prejudiced by the bringing of the second suit and its consolidation with the first suit. Defendant was in exactly the same position as if complainant had filed a supplemental bill in the first suit and defendant had obtained the usual leave to answer such bill, or if complainant had obtained leave to amend his notice of election of claims so as to specify the new claims involved and defendant had then obtained leave to make further answer as to the new claims.

The usual objection to the commencement of a second suit by plaintiff while the first suit against the same defendant was pending—namely the unnecessary duplication of expense and time both on the part of the litigants and of the court—does not exist in the present case, inasmuch as the order of consolidation has put the two cases in exactly the same condition as if the second bill had been strictly a supplemental bill. In substance, therefore, the order of consolidation rendered the second case a supplemental proceeding. If the exact wording of the order of consolidation

and of any subsequent orders made by the court does not designate the second proceeding as supplemental to the first, it is still open to the court under Equity Rule 19 to make any order *nunc pro tunc* that will amend the pleadings and proceedings in the first case or will designate the pleadings and proceedings in the second case as supplemental to the first so as technically to permit of a single decree in the consolidated suit covering all the claims and all the devices. It is hardly thought necessary, however, that any order of amendment be made inasmuch as the substantial effect of the order of consolidation was so clearly to render the second proceeding supplemental to the first, that the court can very properly enter a decree in the consolidated cases without further amendatory order. If the defendant is not satisfied that the course above suggested is in accordance with the spirit of the new equity practice as established by the recent rules and still insists that upon the observance of technicalities, it is to be pointed out that it is still within the power of the court with strict observance of all technicalities to enter a decree covering all of defendant's devices and all of the claims involved in either suit. The bill of complaint in the first suit is broad enough to cover any of the claims of the patent and any of defendant's devices. Complainant's notice of election of claims limited the proceeding to two claims. Had complainant before closing his *prima facie* proofs amended his notice of election of claims, either with or without order of court, and notified the defendant of complainant's reliance upon the two additional claims, the case could have proceeded, upon the same proofs as have now been

taken, to a final hearing which would have involved all of the claims and all of defendant's devices. What took place was that instead of amending the notice of election of claims, complainant filed a new bill specifying the two additional claims and moved to consolidate proceedings under the second bill with the first case which motion was granted. The order provided that further evidence taken in either proceeding should be evidence in the other. Before defendant commenced to take proofs in the consolidated cases complainant gave notice that he was relying upon all of the claims, including those mentioned in the first suit and those mentioned in the second suit. In the first suit complainant had put in evidence all of the devices now sought to be covered by the decree proposed by complainant. Defendant therefore took his proofs with full knowledge that all of the claims were relied on and that all of the devices were charged to be infringements. Technically speaking, if the defendant desires to deal with technicalities, the first suit and the second suit, though consolidated, still remain independent suits proceeding side by side with the same evidence and proceedings in one suit constituting evidence and proceedings in the other suit. *Toledo v. Continental*, 95 Fed. Rep. 497, at 505-506; *Mutual Life v. Hillman*, 145 U. S. 285 at 293. Thus the notice given by complainant just prior to the commencement of defendant's proofs that complainant relied upon all of the claims instead of the two originally specified in the first suit, *was a notice given in the first suit* as well as in the second suit and the evidence taken by the defendant in the consolidated case was evidence in the first suit as

well as in the second. When the combined cases came up for final hearing the record was technically a record in the first suit as well as in the second suit, though presented together and argued as one case. Technically speaking, the court had before it two cases. The first consisted of the original bill and a record that is technically complete and correct and involves all of the claims and all of the devices. The only possible question that can be raised is as to the complainant's second notice of election of claims which broadened the original notice from two claims to all of the claims finally relied on. It is to be noted however, that this second notice was given before defendant commenced to take any proofs and after complainant had put in evidence all forms of defendant's device. Furthermore the commencement of the second suit and the motion to consolidate had resulted in full knowledge on defendant's part that all of the devices and all of the claims were to be involved and when defendant proceeded with his answering proofs he was fully aware of the situation and was in no way prejudiced by the amendment of complainant's notice of election of claims. Thus it appears that the pleadings in the first case are broad enough to support a full decree covering all of the defendant's devices and all of the claims now relied on; also that complainant's *prima facie* case was broad enough to cover all of the defendant's devices and all of the claims, complainant having amended his notice of election before the commencement of defendant's proofs. Thus it is open for the court to enter a decree in the first case covering all of the claims and all of defendant's devices. If defendant still insists that the second

suit was improperly brought it can be disregarded and discontinued. No possible prejudice can result to defendant from such procedure as when all of the facts and proceedings are taken into consideration, it will be noted that the defendant has had full warning at all stages of the case as to the issues involved and was given full opportunity to make defense thereto.

In view of the fact, however, that in order to show the history of the first case and to explain the proceedings therein, the pleadings and orders in the second case should be kept for the court. It is thought that the court need not follow the more technical procedure suggested in the last preceding paragraph, but could enter a decree in the consolidated cases upon the same general principles previously outlined.

THE DECREE SHOULD COVER DEFENDANT'S ORIGINAL
DEVICE AS WELL AS MODIFIED DEVICES.

It is claimed by defendant that any decree rendered in these proceedings should cover only that form of defendant's device (No. 3) that was reoffered in evidence by complainant after the consolidation, and in particular it is claimed by defendant that the decree should not cover the original form of defendant's device that was the first form offered in evidence by complainant in the first suit. The defendant's device No. 1, was not found to infringe in the two claims originally sued on in the first suit and defendant argues that a decree in the second suit at most could cover only the modified device No. 3 and should strictly be limited to the one device No. 3 that was reoffered by complainant.

This argument fails in several particulars. In the first place device No. 1 and indeed all modifications of that device were offered in evidence as part of complainant's *prima facie* proofs in the first case and the order of consolidation of the two cases made these *prima facie* proofs *prima facie* proofs for complainant in the second case. Thus all of the exhibits in the first case including defendant's original device No. 1 and all of the modified devices *became part of complainant's proofs in the second suit* and were therefore before the court for consideration and decree in the second suit.

In the second place as has already been pointed out, the order of consolidation made the second suit and all proceedings thereunder in effect supplemental to the first suit and proceedings therein. Before the commencement of defendant's proofs, *complainant gave notice that all the claims were relied upon* and as all defendant's devices had previously been offered in evidence, it necessarily followed that in the consolidated suit all claims were involved and all forms of defendant's device. It is therefore open to the court to make any appropriate decree in the two suits as consolidated, the power of the court to make a single decree in the two suits having previously been pointed out.

Finally as has above been suggested, the consolidation of the two suits and the notice given by complainant that all claims would be relied upon in effect amended complainant's original notice of election of claims in the first suit so that in the first suit (as well as in the second) all claims were involved. As all forms of defendant's device had been offered in evidence in the first suit, the court is at liberty in the first

suit to enter a decree under all of the claims and against all of the devices.

From any standpoint, therefore, all forms of defendant's device that have been found to infringe should be covered by appropriate decree.

SUMMARY.

Complainant's position may be briefly summarized as follows:

Irrespective of technical objections, it is clear that defendant has had his full day in court. That with notice that all claims were to be relied on and that all forms of defendant's device were charged with infringement, defendant presented his full defense and the court passed upon all these questions on the merits. A decree or decrees should therefore be rendered on the merits covering the points actually litigated and decided. If any amendment of any of the pleadings, orders, proceedings or record be necessary to enable the court to enter an appropriate decree, the court has such power under Equity Rule 19. Under the same rule

'the court at every stage of the proceeding must disregard any error defect in the proceeding which does not affect the substantial rights of the parties'

It is believed that there has been no technical error or defect for the following reasons:

1. Technically complainant was entitled to bring two suits under different claims of the same patent. See cases above cited and discussion of the same. A consolidation of such suits was within the discretion of the court and relieves the situation of any charge of hardship upon the defendant by involving extra ex-

pense, etc. Under the consolidation it is within the discretion of the court either to make a single decree in the two cases covering all of the claims and all of the devices or to render separate decrees in the two cases dealing with the two original claims in the first case and with the additional claims in the second case. As the parties are the same in both cases, a single decree would seem preferable.

2. If technically complainant should have brought a supplemental bill or should have amended his original notice of election of claims in the first case instead of bringing a second original bill, any objection to such course has been cured by the consolidation of the two cases which practically made the second suit and proceedings thereunder supplemental to the first. There has been no possible prejudice to the defendant by such procedure either in loss of time or in expense. All the issues under all of the claims as to all of defendant's devices have been thoroughly tried and have been decided by the court. The court has power under Rule 19 to disregard any technicalities and to enter any orders of amendment as may be necessary to bring about a decree on the merits.

3. If strict technicalities are to be observed, the court can properly hold that complainant's notice in the consolidated suits to rely upon all of the claims was a notice in the *first* suit (as well as in the second) and amounted to an amendment of the original notice of election of two claims in the first suit, thus broadening the scope of the first suit to cover all claims (the pleadings being broad enough to support a suit of that scope). All of defendant's devices had been offered in

evidence in the first suit. Defendant's answering proofs were necessarily proofs taken in the first suit as well as in the second suit. Therefore the record in the first suit would justify a decree as to all of defendant's devices under all of the claims including those specified in the original notice of election and including the defendant's device No. 1 originally put in evidence in the first suit.

4. Inasmuch as all issues have been presented under one bill of complaint or the other and inasmuch as a consolidation of pleadings and proceedings was had and full notice given to defendant that all claims would be relied on and all devices charged with infringement, which notice was given before defendant took any proofs, defendant has been in no way prejudiced by the proceeding and has had full opportunity of trying out all questions on the merits. Whatever may have been the particular form of proceeding, the substance was that the original bill was amended by a supplemental bill and proceeding and that the two proceedings went forward as one and all issues were fully tried and have been decided. Under these circumstances the court, under Equity Rule 19, is certainly entitled to enter an appropriate decree or decrees and such decree should cover all forms of devices that have been found to infringe any of the claims.

Dated, N. Y. July 10th, 1916.

Respectfully submitted,
(Signed) FREDERICK S. DUNCAN,
Of Counsel for Complainant."

Further on this question of appellee's position before the court at the trial and argument in this consolidated cause, we quote the following statement before the trial court:

“So we now come before the court with claims 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17 and 19.

“The Court: You are still insisting on all of those claims?

“Mr. Blakeslee: Yes. Upon the records in this court as they stand today.”

Even the proceedings and pleadings in B-62 alone, and apart from the order of consolidation, were and are sufficient to warrant the findings of infringement by all the Double Improved reamers and the several types thereof decreed in that case. Your Honors' attention is directed to the brief by counsel Duncan *supra*, in which these aspects of the situation are unanswerably dealt with:

“The complainant made assurances doubly sure by not only giving such amended notice of election *prior to the commencement of any proofs on behalf of defendant*, but by reinforcing such amended notice of election by a carefully worked out and judicially endorsed procedure by which automatically and unfailingly any limitation of the issues to merely claims 16 and 17 has been wiped out and supplanted by a well founded charge of infringement as to any devices of defendant before the court, of the full group of claims relied on including claims 9 and 19.”

As to any presumptions or errors of judgment or perception which appellant may have indulged in or

gone astray with, these have nothing to do with the ironclad terms and effect of straight, clear, plain pleadings and notice. The unmistakable nature of the pleadings and notice are the best evidence of the intentions of the party perfecting and giving them. Counsel cannot escape by throwing ink like the squid, for he is entirely surrounded by an unbroken net of pleadings and notice as to this consolidated cause and the charge of infringement and proofs therein.

Types "C," "D" and "E" were brought successively into the case as the record shows, and when they were followed up by the later Type "F," the scope of infringement became glaringly larger even as to the prior types, and the necessity arose for the pleadings in the amended bill in B-62, to the effect that complainant had discovered *since the commencement of taking proofs in A-4* that defendant had further and more elaborately infringed;—such *discovery* pertaining to the original improved type as well as these later improved types which culminated in Type "F." We never conceded that there was no infringement as to any claims of the patent, and certainly it is equity to perpetuate injunctive relief against all the infringements found in in this case. To allow appellant to use Wilson's invention and punish Wilson's company for infringing in the companion suit, *supra*, would be distorted equity.

In conclusion we may say that the subjects of claims 9 and 19 are clearly found in each one of defendant's improved reamers, including Types "D" "E" and "F," performing the same offices or functions in substantially the same way and to produce the same results and ob-

tain the same benefits *insofar as the novel entities therein claimed and pirated by defendant are concerned.*

We do not anticipate that Your Honors, because of any cured technical defect that *might* once have existed in the pleadings will allow appellee to go away from this court empty-handed in this cause, when defendant has wilfully and extensively, and in many forms of its product, taken vitally claimed parts of the Wilson invention and built them into its product. Merely including Type "F" in the decree would be excusing and whitewashing the defendant as to the major portion of its infringement of the *same kind as found in Type "F," though not as extensive as we contend.*

The complainant has a patent for an invention which the trial court has found valid and unanticipated. The court has found that the Double improved reamers, and Types "D," "E" and "F" infringe claims 9 and 19 of this patent. There can be no doubt that the defendant so infringed with its eyes open, knowingly and wilfully. The proceedings thoroughly and elaborately provided for including in the decree all the findings of the court as to infringement by this defendant's devices, which pleadings were elaborated because of the unusual tactics of the defendant on the record, and the questions raised at the eleventh hour by appellant were decided against it on rehearing. The record contains a timely amended notice of election, and rules 19, 26 and 34 make appellee's procedure proof against merely technical contrary-to-equity attack.

Replies to Scattering Misstatements, Misrepresentations, and Misleading Matter in Appellant's Brief, With Further Important Points Suggested Thereby, All Deemed Highly Important.

While we have generally, and, we believe, fully and thoroughly presented appellee's case in this brief, there are specific statements made in appellant's brief which require challenging, because of their inaccuracy and their misleading effect. We have had occasion before, in dealing with briefs of appellant's counsel, to categorically deny or correct such statements, as it seems to be a general mental attitude of counsel's to indulge, for some reason or other, in such distortion or misrepresentation, in an endeavor—at times more or less cleverly—to create an effect contrary to the facts and law of the case.

We have thoroughly, and, we believe, effectively disposed of this attenuated technical defense of appellant pertinent to the commencement of cause B-62, which was consolidated with cause A-4. Certain statements on that side of the case, however, require challenging and correcting.

Appellant states, at the top of page 4, that defendant has been manufacturing underreamers alleged to infringe since 1905. As defendant was not in existence prior to 1908, this statement is absurdly in error.

In the second paragraph on page 5, and also in the last paragraph, and at several points thereafter, appellant makes the statement that appellee *conceded* that no other claims than 16 and 17, on the cutters, were infringed by defendant. We have previously

shown that there was no such concession and that, on the contrary, the charge of infringement of other claims was not waived, *but merely was not asserted* in A-4. The record shows, as we have pointed out, further, that when this suit was commenced infringing reamers "D," "E" and "F" had not been produced, so that counsel is in error in paragraph 3 of page 5.

The portion of page 7 in italics is seen to be absurd, as thoroughly treated of hereinbefore.

At the bottom of page 7 we again find a reference to an alleged period of manufacture by defendant which would carry back years before defendant was incorporated.

In the paragraph at the bottom of page 8 we again find a statement that complainant stipulated that only claims 16 and 17 were infringed. Counsel can find no such stipulation. As the trial judge well said, no binding nonsuit as to the claims other than 16 and 17 was effected by the original election *on the record in A-4* as to these claims.

In the sentence beginning at the bottom of page 8 and terminating on page 9 counsel makes a singular statement with reference to counsel for appellee. Counsel for appellee did not become associated with this reamer litigation, in either this suit or the earlier suit, until September, 1912. Prior to that time appellee had never employed patent counsel in either of these actions. It was not until after counsel for appellee was retained that appellee received the advice, by such counsel then given him, that appellee had a good cause of action against appellant under appellee's patent in suit here. And inasmuch as appellee's counsel was almost exclu-

sively engaged in and about the litigation in the other suit under the Double patent from the time he was retained until the bringing of this suit, the full extent and scope of the infringement by appellant in this case did not strike him and was not realized by appellee's counsel at the time this suit was filed. It was not until appellee's counsel had the leisure and opportunity to thoroughly analyze the Wilson patent in suit here and to apply it thoroughly to the completed proofs in the other suit and the evidence taken therein, and well toward the end of the taking of the *prima facie* proofs in this case, that counsel for appellee became aware of the range and extent of the appellant's piracy of the Wilson invention. This was brought home forcibly to him upon the appearance in the market of the Type "F" reamer. And then and there, as we have hereinbefore shown, appellee's counsel put into operation the necessary machinery for elaborating and enlarging the scope of the charge of infringement, as by the bringing of B-62. *Prior to such opinion given by appellee's counsel, appellee had never had or received an opinion from patent counsel pertinent to the infringement charged and proven in this case. His attention had been devoted to the earlier suit brought against his company under the Double patent; and his original attorneys in that case, able as they were in general practice, and who left the entire conduct of that case, after commencement of proofs, to appellee's counsel here, had never appreciated the infringement charged in this case and had never advised appellee that such infringement existed. The erroneous statement of appellant's counsel last referred to makes it most apropos*

to call the attention of Your Honors to this situation, which so consistently and fairly and fully further enlightens as to the procedure taken in connection with the suit B-62.

Referring to the paragraph next to the bottom of page 10, there was no finding in the decree that the original bill of complaint be dismissed. As a matter of fact, there being but one cause before the court, namely, the consolidated case A-4, it would have been impossible to dismiss that bill. The court will note that there is only a single decree in this case, and that is as to the consolidated cause A-4. [R. p. 85.]

Counsel suggests, in the third paragraph on page 11, first part, procedure which on its face is absurd, and is merely an attempt to blur the clear-cut procedure that was had on the consolidation. What occurred was merely a finding of non-infringement of the claim elected on the record in A-4. There was no dismissal, and could be no dismissal, of any part of the consolidated case. There was only one hearing, and all the enlarged issues were properly disposed of in one consolidated suit.

We quote here further from the memorandum of ruling on rehearing [R. p. 81]:

“That which was said by counsel for complainant after the commencement of B-62 is more reasonably explained by giving effect to the following considerations:

The main purpose in bringing B-62 was, doubtless, to determine the question of the infringement, by Type “F,” of several claims of the patent withdrawn from

consideration in A-4, by the election therein made by complainant to rely entirely on claims Nos. 16 and 17. Further, such statements were rather made as statements of what had been done and said theretofore in A-4 than as announcements of what it was proposed to do in B-62.

Nothing short of a clear, unequivocal election to withdraw or discontinue the suit as to alleged infringements set out in B-62 would suffice to narrow the issues thereby tendered. The discontinuance in A-4 as to other claims—which was worked upon the election to stand upon claims 16 and 17—did not have the effect of a judgment upon the merits, or any other than that of a voluntary non-suit. [73]

It is not necessary to determine the effect which such election would have had if A-4 had gone to final judgment before B-62 was begun and the consolidation with A-4 ordered. Counsel for complainant having withdrawn by the election, part of his claim for infringement, had a right to withdraw such election, and the rights of the defendant growing out of the election and the proceedings subsequent to such election and prior to notice of its withdrawal, would give no ground for denying complainant's ultimate right to again broaden the issues. The only effect of such election and the proceedings thereafter and prior to notice of its withdrawal, or amendment of election, would be to give the defendant, under certain circumstances, a right to the imposition of terms and the right to demand an opportunity to further cross-examine the complainant's witnesses, theretofore testifying. The defendant having made no demand for such opportunity, must be held

to have waived the same, and, in consideration of the scope of the cross-examination, the court feels that it was in no way prejudiced thereby.

It is probable if any of the witnesses already examined—whose testimony was relevant to the broadened issues—had died, the testimony of such witness would have to be stricken, or the first suit abandoned and a new one brought. But the court is not called upon to decide such a question. Insofar as any question of splitting this cause of action is concerned, that matter was foreclosed by Judge Bledsoe's order denying the motion to dismiss B-62."

Referring to the bottom of page 12, appellant indicates that he could see no essential structural differences in principle between Type "F" and the other types. That being the case, he must have appreciated that the bringing of B-62 was mainly to enlarge the issues as to *all* the exhibits.

And so on through all the drift of counsel's attempts to save the skin of the appellant by haggling over the four-times-approved-and-endorsed proceedings on consolidation of A-4 and B-62, the lurid and unilluminating character of which, through to page 41 of the brief, will doubtless be impressed upon Your Honors without the necessity of further waste of time and space.

There is one further statement on page 12 of appellant's brief which is apparently meant to confuse the court, namely, that no claim in the Wilson patent covered assembling from the bottom. This assembling at the bottom, as well as the possibility of remachining the body, was made possible by reason of the "pronged"

construction, as in case 2, *supra*, and this prong construction is clearly covered by the several claims of the Wilson patent, as hereinabove discussed, as is the detachable cross-piece, one of the elements of claim 8 of the Wilson patent. Of course, Wilson did not claim *result*, and if his patent had claimed same, appellant's counsel would be the first to attack it as functional. But appellant cannot assemble as does the Wilson reamer and permit remachining *by using* Wilson's *invention*, and fail to infringe.

Counsel states that the Jones removable bowl reamer was not an abandoned experiment. We quote now from the testimony of Jones himself, the inventor, which conclusively proves it was a mere ephemeral device, short lived, and entirely superseded by later reamers and even abandoned by Jones in the Patent Office. The testimony is as follows [R. p. 791.]:

“Q. 114. Why was it, Mr. Jones, that you discontinued the manufacture and sale or rental of underreamers like Defendant's Exhibit Fred W. Jones Reamers, Types 1 and 2?

A. The principal reason was that there wasn't any sale for them.

Q. 115. And why was there no sale for them found?

A. I suppose the reason was they had to come into competition with other underreamers which could be sold cheaper.

Q. 116. Among which was the reamer manufactured by the Union Oil Tool Company at that time?

A. Yes, and others that were on the market besides that.

Q. 117. Did you at any time file an application for letters patent of the United States upon either of these types of Jones reamer like Defendant's Exhibit Fred W. Jones Reamer Type 1 or Defendant's Exhibit Fred W. Jones Reamer Type 2?

A. On Type 2" (removable bowl reamer) "the application was filed.

Q. 118. Can you give the date upon which such application was filed and the serial number of such application?

A. July 14, 1902, Serial No. 115,608.

Q. 119. Was a patent ever issued to you on that application?

A. No."

So this Jones device was rendered obsolete even by the Double old style reamer, which the Wilson invention has in turn rendered obsolete; so that the Jones device is not even related to the Wilson invention by *possibility of competing use*.

The drawing of this application is shown at record, page 1095. This shows conclusively that the reamer could not be completely assembled and disassembled at the bottom, and that a middle joint was provided as shown at the screw threads "O."

Could stronger evidence as to this being an abandoned experiment be produced than the testimony of the inventor himself and the record of the application which died in the patent office? Not only was this reamer abandoned, but the application for patent for the same was abandoned.

This should remove this Jones reamer from any consideration in this case, as having any anticipatory or other value in this case.

If this court will recollect or refer to previous decisions supporting counsel for appellant's contentions as to the iniquity of such abandoned experiment defense, as in *Parker v. Stebler*, 177 Fed., and if the court shall at the same time have under consideration the companion cause, the suit under the Double patent, and have presented to it therein the attacks made in the lower court by counsel as to reamers such as the O'Donnell & Willard reamer, which reamer counsel contended was abandoned, it is believed that the weakness of appellant's case on the prior art side will be even more pitifully striking.

Counsel glibly states, on page 45, that the Wilson reamer comprises four features. *There is not a claim in the Wilson patent for these four features broadly, and there could not be.* The same features were present in the prior Swan [R. p. 998] and O'Donnell & Willard [R. p. 1004] patents, which were prior likewise to Defendant's Exhibit Double Patent No. 1. These features broadly could not be claimed by Double any more than Wilson claimed them. The features, of the invention, it is true, were built around these necessary elements, which had been used in the art from time immemorial. One might as well say that any patented automobile comprises a body, steering gear, wheels, and a motor, or any patented churn a vessel and a dasher; or any patented aeroplane a body and wings.

The last paragraph on page 45 is entirely misleading. The court will find that the open slipway at each side

was old in the Swan patent in evidence and was not original with Double. It was old in the Jones round-nosed reamer in evidence in the companion case, and likewise in the Mentry patent and the Yorke patent, which are in evidence in the companion suit; and if this statement goes a little outside the record, it is certainly not as wide of the record as the statement of counsel at which it is directed, and *is* the truth.

Counsel's statement at the bottom of page 54 is entirely erroneous, as we have previously indicated. Particularly at this point we would emphasize again the fact that the provision of the Wilson lug construction in the infringing reamers and of the co-operating shoulders on the cutters, transferred the inthrust bearing point of the defendant's cutters down low on the body instead of up on the shank, as in the Double Patent No. 1 and the old style Double reamer. This took considerable of the strain off the weak shank of the Double cutter, and likewise lessened the leverage upon the Double cutter at its weakest point, namely, the V-shaped notch across the back of its shank. It also, in reducing such leverage effect, removed a great deal of the outthrust strain of the cutter shanks upon the ways, and thus limited the danger of breaking out the dovetails or ways, as well as avoiding breakage of the cutter shank. It is to be noted that this was accomplished by the adoption of the Wilson lug construction at the lower end of the body, and the further adoption of the shouldered cutters with the bearing faces 4³ on the shoulders.

On these points see the following testimony of W. W. Wilson [R. p. 272]:

“The bearing face on the inside of the old style Double underreamer cutter differs from that of the new style Double underreamer cutter” (Double Improved and cutters of infringing reamers) “in that it is wholly and entirely upon the shank of the cutter in the old style, while in the new style this bearing face has been brought down so that it is largely upon the inner face of the body of the cutter and extends outward upon the laterally-extended portions of the cutter body.”

Also [R. p. 273]:

“The body of the cutter in the Double Improved underreamer cutter extends laterally considerable distance beyond the outside edges of the dovetails on the shank of the cutter, thus producing a definite widening of the cutter body as compared with the shank. The placing of the cutter-expanding bearing down upon the body of the cutter permits a more stable supporting of the cutter against the underreamer body or parts thereon than is the case in the old style Double underreamer cutter where the same is placed upon the shank solely. The increased width of the cutter caused by widening of the body of the *improve* Double underreamer cutter makes a better underreaming cutter than the old style, for the reason that it embraces more of the circumference of the circle produced thereby.”

Also answer to question 32 [R. p. 274]:

“The length of life of the improved Double underreamer cutter is greater than that of the old style Double underreamer cutter for the reason that there is

less chance for breakage of the improved cutter, due to the fact that the cutter-expanding-bearing is placed down upon the body of the cutter, thus better supporting the cutter against sidewise rotation, and also relieving a great amount of strain from the cutter-shank when in reaming operation by reason of the fact that the cutter-faces are braced against collapsing at a point more nearly in line with the pressure exerted thereon.” * * *

See also answer to Q. 35 [R. p. 276]:

“* * * The cutter-expanding faces on both cutters” (Wilson and Double Improved) “are placed on the upper inner face of the cutter body, and in both cutters extend to the widest dimensions of the cutter body. In both underreamer cutter a large amount of metal is present in the body part of the cutter as compared with that in the shank.”

This modification by defendant of its cutter structure is further evidence of the extent to which defendant went in reorganizing the Double reamer to include the Wilson invention and to include with, and co-operating with, such modified cutters another basic feature of the Wilson invention, namely, the lug element, which lug element made possible the utilization of such strengthened, braced and reamer-strengthening cutters.

We have hereinabove pointed out to what full extent defendant has appropriated and used the advantages incident to the use of the Wilson invention, and have elaborately quoted the law to the effect that the inventor is to be protected as against the piracy of his invention for the enjoyment of any of the advantages

thereof, either known or not known, or recited or not recited, by the patentee at the time of filing his application. The fact that defendant did not in its practice draw upon the full fund of the Wilson invention does not enable it to escape from a finding of infringement. That finding would be proper if any one characteristic or phase or part of the Wilson invention, with any advantage attaching thereto, were appropriated by defendant. This is true regardless of whether or not such advantage or purpose of use is found recited in the patent.

Counsel for appellant has attempted to confuse Your Honors and to distort the facts, as for instance on pages 54, 55, *et seq.*, by making it appear that claims 9 and 19 are to be limited by any limitation introduced within claims 16 and 17 in the prosecution of the same in the Patent Office. Manifestly claims 9 and 19 are not in any sense so limited. These claims are for *combinations of elements*, and each of these elements is to be broadly considered in the combination, which combination claims, as in *Yeshara v. Hardesty*, 166 Fed. 120-125, *supra*, are to be construed as entities irrespective of their specific features. If one had a patent for the first vehicle, comprising, in combination with a body and wheels, steering means for changing the angular presentation of the wheels, such claim would not be limited by a further claim in the patent *for the specific construction of one of the wheels*. The “shouldered” cutters are the cutters having lateral shoulders the inner faces of which are the bearing faces 4³. This is clearly specified in claim 19. Counsel would have it that the “shoulders” are the “rounded corners or bear-

ings 16" which are merely the upper terminal portions of such shoulders. These rounded bearings, which are specifically found in the infringing reamers as in the upper angular corners or bearings at the upper portions of the lateral shoulders, which upper corners engage with the prongs at the lower ends of the lugs and ride upon the lugs, as the expansion is effected, are not the "shoulders" of the patent in suit. Claims 16 and 17 have "shoulders" which are manifestly the lateral projections at the sides of the shank. This is clearly shown by the File Wrapper and Contents of the Wilson patent. We repeat that the specific form of the shoulders and the relation of the shoulders to the shanks of the cutters, whatever may be the proper interpretation under claims 16 and 17, has nothing to do with the interpretation of claims 9 and 19 or of any other claims in the case, which are for a combination of features including cutters, inasmuch as such claims are to be considered, as above pointed out, as for *entities*, irrespective of the particular characteristics of the component parts. To read into claims 9 and 19, for instance, any limitations proper to claims 16 and 17, would be in effect to limit Wilson's whole invention to the mere subjects of claims 16 and 17. *This is manifestly an absurd proposition, for the lug elements 2' with the spreading-bearings 9 thereon, and the combination of such parts with the cutters, were factors broadly new with the Wilson invention.* Furthermore, to limit these basic and novel features of this invention by reading into these claims the collapsion of the cutters between the prongs is to disregard the adaptability of the invention, as in the infringing structures, to reamers in

which the many other advantages of these features are found, irrespective of the swing in of the cutter shanks between the prongs. The opinion of the trial judge is significant on this point [see R. p. 79]: .

“The fact that defendant did not appropriate the, perhaps, relatively more important conception of Wilson, whereby the cutter-shanks were allowed to collapse between the prongs, does not excuse it, or take from the infringement it has practiced, for the seat or bearing of the cutter-head on these faces, or lugs, is not dependent upon the swing in collapse of the cutter-shanks between the prongs.”

See also same opinion [R. p. 78]:

“In the so-called ‘Double Improved’ underreamer and in Type ‘F,’ with the interposed block in position, a lug at the lower end of the reamer body appears and, with the block removed in Type ‘F,’ two lugs appear, in relatively the same position and with relatively the same bearing faces as those upon the lugs of the patent in suit.”

It is immaterial, therefore, from considerations of appropriation of the Wilson invention, whether the lugs 2' with their spreading-bearings 9 be spaced apart or separated, or whether these lugs are connected by a web or interposed portion, inasmuch as the invention pertains to the provision of such lug or lugs and the co-operation therewith of the shoulders upon the cutters.

As said in *Stebler v. Riverside Heights, etc., supra*, it is immaterial whether there be an addition or whether there be an omission provided the substance of

the invention is taken. Therefore, to add this connecting web or interposed part between the lug portions with which the shoulders co-operate, is merely adding something to the invention of Wilson and does not in any sense change the character of the infringement.

We insert at the front of this brief cuts of the Type "F" infringing reamer body (that with the bolt 11), and of the Double Improved Infringing reamer. The "prong" features and formations and parts and adjuncts are clearly shown here, being shaded heavily in the "Double Improved" reamer, the features of which are present in Types "D" and "E" also. The reference characters of the Wilson patent in suit are applied to these cuts, showing infringement.

It is, however, important to note in this connection that in the so-called Double Improved underreamers, namely, the underreamers found to infringe and not specifically designated as either Type "D" or Type "E" or Type "F," defendant actually subdivides the inner bearing portion or surface or face upon its cutters, so as to space them apart as clearly and distinctly as the shoulders with such bearing faces 4³ can be said in any sense to be spaced apart by the shanks of the cutters in the Wilson patent. Even in that connection an inspection of figures 8 and 9 of the drawings of the Wilson patent establish the fact that these bearing faces 4³ are not entirely separated by the shank, but only the upper portions of such bearing faces. That is one reason why we contend that infringement of claims 16 and 17 should have been found. For, even if those claims are to be so construed as to provide that portions of the bearing faces 4³ are

separated by the cutter-shank, the defendant appropriated the invention as expressed in these claims 16 and 17 in as far as it provided these bearing faces not so separated, corresponding with the portions of such bearing faces not so separated in the Wilson patent. But, in the so-called Double Improved reamers, which the statement of defendant on accounting in this case shows amounted in number to fully four-fifths of all the underreamers ever made by this defendant, the bearing faces of the shoulders of the cutters were definitely demarked each from the other and physically separated by a groove extending lengthwise of the cutter, and, therefore, distinctly separated bearing faces were provided on these shoulders which co-operated with separated lug surfaces on the body. In other words, as to the co-acting portions of these bearing faces on the cutters and the lug surfaces, there were distinctly separated zones co-extensive with the length of such groove. These formations, and the purposes attaching to such formations and arrangement, are clearly shown by the testimony of E. C. Wilson and W. W. Wilson at the following places in the record:

Answer to Q. 326 [R. p. 251]:

“The groove at the back of the Double underreamer, Complainant’s Exhibit Improved Double Underreamer, partly divides that bearing into two separate bearings or faces. In that regard the grooves produce a similar result with the Double underreamer-cutter, improved type, that is produced on the Wilson underreamer as shown by the drawing figure 9, Complainant’s Exhibit Wilson Underreamer Patent, by leaving a portion of the body intact and interposed between the two bear-

ings 4³. It will be clear that in each case a portion of the face or bearings at the backs of the cutters are divided into two separate faces.”

Defendant would make it appear that this groove was necessary in order to accommodate an Eye-bolt to be passed through a hole in the bottom of the Double reamer-body and engaged with the spring-actuated rod for the purpose of pulling down the rod preparatory to attaching the cutters and assembling the reamer. On that head see the following testimony of E. C. Wilson:

Answer to Q. 331 [R. p. 256]:

“The grooves are not necessary in order to insert the eye-bolt in place in the spring-actuated rod or mandrel.”

See also the testimony of defendant’s “expert” Griffin [R. p. 707] as follows:

Answer to Q. 170: “I would say in my interpretation of claim 16” (Wilson reamer patent) “that ‘an underreamer-cutter having two shoulders and a bearing face on the inner side of each of the two shoulders of the cutter,’ that the ‘Complainant’s Exhibit Wilson Reamer Cutter has the two shoulders, and it has a face on the inner portion thereof that is not used.’”

In correspondence to this admission we find the faces of the bearing surfaces at the sides of and separated by the groove in the Double underreamer-cutter, as inner bearing faces.

Quoting from W. W. Wilson’s testimony on this matter, his answer to Q. 31 [R. p. 273], is as follows:

“The bearing face or expansion bearing at the back

of the cutters differs from the old style Double underreamer cutter from that of the new or improved style Double cutter in that there is a partial cutting away on this face on the improved underreamer cutter near the center thereof *in* a vertical line, by means of a rounded cavity which divides its bearing-face into two parts, while upon the old-style underreamer cutter no such notch appears.”

Answer to Q. 40 [R. p. 281]:

“The same open space between the prongs on the cutter body of the Wilson underreamer permits a contracting of the cutter with the body only as two separated portions on the Wilson cutter. The same action is accomplished in the Double underreamer by providing a notch in the center of the cutter body on the inside which notch divides the spreading-surface into two separate parts.”

Answer to XQ. 201 [R. p. 343]:

“This notch permits access of a threaded bolt to the spring-actuated rod or mandrel for the purpose of drawing the cutters down and of relieving the strain on the key, so that it may be withdrawn. Also, it serves to remove the metal at the center of the thrust-bearing, which, in case rocking occurred would tend to pile up and form a fulcrum point on which the cutter would rock.”

XQ. 202 (By Mr. Lyon) [R. p. 344]:

“Then do you understand that in the so-called Double improved reamer such a groove is necessary in the thrust-bearing of the cutter to enable such underreamer

to expand and contract the bits in accordance with their normal mode and principles of operation?

“A. Yes, sir.”

This testimony emphasizes the fact that the defendant appropriated the Wilson invention, among other reasons, for the purpose of preventing rotatory action of the cutters which tends to break the co-engaging dovetails or the shoulders on the cutter-shanks and the body, namely, the shoulders 4² and shoulders 2”.

Another reason why this groove was provided in the inner bearing face of the Double improved cutter, to divide this bearing face into two separated portions, is that it removed the inward or crushing strain of the cutters from the zone of the lug element through which the hole is provided, which hole accommodates the lower end of the movable spring-actuated rod. Without such groove, inward crushing strain applied at this point would tend to flatten out the formation of the hole in effect so that the spring-actuated rod could not play in it. This intrust or crushing strain is imparted to the reamer body at portions separated by a space, namely, the hole, corresponding directly with the imparting of intrust in the Wilson underreamer to portions separated by a space, namely, the space between the “prongs.” And in that connection it must be borne in mind that whether such gap or space be present, or whether it be absent, as between the portions of the body which take the crushing strain or intrust from the shoulders on the cutters, the co-action of the shoulder with the lug element is still present, preventing rotatory action of the cutters, and likewise diminishing

the leverage action above referred to which tends to break the cutters and dovetails in the old style Double underreamer. Thus, in this lug element or formation in the infringing reamers, the “prong” formation of the Wilson invention is present, and it is thus more particularly obtained. Although there be a thin web of metal confining the spring-actuated rod hole and extending to the outer faces of such lug element, that web element becomes useless and a mere idle element, as the separated spaced bearing faces on the shoulders of the Double underreamer-cutter do not co-act with such connecting web at any time, but, on the contrary, do co-act with the spaced portions of the lug element at the opposite sides of such hole. Thus it will be clear that identically the same results are obtained as though the hole were cut clear through to the faces of the lug element, literally producing *spaced* forks or prongs. This makes it very clear that in effect the retention of the metal to confine the hole outwardly to the faces of the lug element is merely a subterfuge employed in the Double improved reamer.

Thus appellant's desperate effort to make it appear that the infringing reamers have at all times used continuous inthrust-bearing faces on the cutters co-acting with continuous lug faces or spreading bearings on the body, *even if that could avoid infringement*, (which it could not), is found to be a deceptive and untrue statement and proposition, and defendant is found *in the majority of its infringing reamers* to have employed actually physically separated inthrust-bearing faces on its cutters co-acting with almost entirely physically separated spreading-bearings on its lug elements, the

slight webs of metal outward of the rod-hole being merely retained as a subterfuge to mask infringement, inasmuch as the hole might still be cut clear through the faces of the lugs, as far as the operation of the reamer in expansion and contraction of the cutters is concerned. What defendant did in Type "F" was really to leave out these thin webs of metal, and that enabled it to use the integral tee and rod or stem and obtain that further advantage of the Wilson invention, in addition to assembling at the bottom of the body and re-machining the prongs so produced, which re-machining was further permitted by the use of a key to hold the lower end of the spring in place of a shoulder as used in the improved reamer, which of course would be cut away and destroyed upon machining back the body. Thus we demonstrate further our proposition, repeatedly asserted hereinabove, that Type "F" is simply a more flagrant infringement than the preceding types, and make it easy for Your Honors to see why the production in this type awoke us to a full realization of how much further the defendant had infringed in and by the Double Improved reamer than charged under claims 16 and 17. Of course in Type "F" the prongs are separated clear up to the upthrust bearings 10 on the body (or downthrust bearings as the patent calls them).

IN OTHER WORDS, THE TYPE "F" REAMER BECAME AN INDEX TO THE MATERIAL AND EXTENSIVE RANGE OF INFRINGEMENT IN THE PRECEDING TYPES. IN IT THE DEFENDANT THREW OFF ITS MASK ENTIRELY AND MADE PLAIN AND CLEARLY VISIBLE THE EXTENT TO WHICH IT HAD BEEN INFRINGING IN ITS PREVIOUS TYPES. WHILE DEFENDANT HAD ATTEMPTED TO DECEIVE WILSON BY LEAVING IN THE THIN WEBS CONFINING THE ROD-HOLE IN THE DOUBLE IMPROVED REAMER, IN TYPE "F" IT REMOVED THOSE THIN WEBS AND MADE IT PLAIN TO US THAT THEY HAD PREVIOUSLY BEEN USED SIMPLY AS A SUBTERFUGE.

We are not now dealing with the portion of the hollow-slotted extension above the lug element, nor with the portion of the rod-hole which extends downwardly through that. Whether that be present in the defendant's infringing reamer bodies, as in the Double Improved and Types "D" and "E," or absent as in Type "F," infringement still occurs with respect to the novel features which we are now discussing, namely, the Wilson lug element and the co-acting bearing faces on the shoulders of the cutters. As to those features, the adoption of them by the appellant, either with or without the groove to physically separate the bearing faces on the shoulders, and either with or without the thin webs of metal confining the rod-hole in the lug element, the defendant obtained by their adoption all those advantages of the Wilson invention which consist of strengthening the cutter by moving its intrust bearings down on to the body of the cutter, prevention of rotatory action of the cutter, more effective imparting of intrust from the cutter to the body, increased

width of cutting edge of the cutter, increase of stock or metal in the cutter to be dressed out in sharpening the cutter, and increased mass of cutter to resist wear or abrasion caused by friction of the cutter against the wall of the hole.

It is important to note that over ninety per cent. of all the reamers ever made by the defendant are infringing reamers, as per its own statement filed under the rule with the Master on accounting. This is to be borne in mind by Your Honors in considering the effect of the decision in the companion case, particularly as it refers to the Double underreamer being a successful underreamer and taking the field. It took the field so far as the Union Tool Company is concerned by the use of the Wilson invention, the record in the other case clearly showing that prior to such use the predecessor of the defendant, in manufacturing the old-style Double underreamer of Defendant's Exhibit Double Patent No. 1, was constantly confronted with cutter breakages and body breakages occasioned by inherent weaknesses largely corrected by the later adoption of the Wilson invention. The defendant wilfully and knowingly changed its Double underreamer over to use the Wilson invention, and it was duly notified of the Wilson invention by the pleadings of the Wilson patent in defense in said other suit, the original suit having been brought in 1908, the year that the defendant corporation was organized.

Further, on counsel's contentions as to the meaning of the term "shoulders," as above said it is immaterial what the limitations to claims 16 and 17 may properly be within the file wrapper and contents of the Wilson

patent in suit. It is clear from the very language of the amendatory matter appearing on page 1046, record, that the rounded corners are only the terminal portions of the shoulders or the tops thereof, as in lines 1 to 6, inclusive, page 2 of the patent. [R. p. 980.] If that be not so, the said amendatory matter appearing in lines 84 to 90, inclusive, of the patent in suit [R. p. 980], would be unintelligible, for clearly the bearing faces 4³ are not the inner faces of such top terminal portions of the corners 4³. These faces are *below* such corners or bearings 16 and are *inner faces* of the shoulders at the tops of which such rounded corners or bearings 16 are formed. The patent must, of course, as, *supra*, be construed by considering all of its parts together, and not any one part distinct from any other part, and it is unfair to the patent to fail to consider fully the full disclosures of the drawings and the specification as to location and relations of these bearing faces, the shoulders upon the inner faces of which they are formed, and the rounded corners at the tops of such shoulders and faces. It is the bearing faces 4³ that engage with the spreading bearings 9—and not the corners 16.

To show the importance that Wilson attached to the lug element 2' with its spreading bearing 9, which is so clearly found in defendant's reamers, reference may be had to R. p. 1039 and the remarks there made by Wilson's patent attorney, as follows:

“Reconsideration and allowance of this claim is requested in view of the fact that none of the patents show the lugs called for in this claim, it being understood that the term ‘lugs’ is limited to projecting de-

vices, none of which for this purpose is shown in the patents.”

This clearly indicates the patentee’s contention before the patent office as to the entire novelty of this radically basic feature of his invention which has been appropriated by defendant.

On this question of the desperate attempt of appellants to make it appear that such limitations as might be properly read into claims 16 and 17 should also be read into other claims, such as claims 9 and 19 of the patent in suit, when these claims are for broad combinations of cutters having any kinds of shoulders with any kind of bearing faces on the inner sides of the shoulders, etc., etc., it was said in *Kings County Raisin & Fruit Co. v. United States Consolidated Seeded Raisin Co.*, 182 Fed. 59, that it does not necessarily follow from the fact that a claim of a patent describes a specific form of construction of a machine or part, that the inventor is limited to that form; but it depends on his expressed intention and the scope of his actual invention. If there was any “expressed intention” with respect to claims 16 and 17, which are the only claims on the cutters *per se*, there certainly was no intention of the inventor here, nor does the scope of his actual invention require, that the other claims, such as 9 and 19, be limited by any such “expressed intention” applicable to claims 16 and 17. Appellant garbles this whole proposition. He might as well say, for instance, that claim 8, which merely mentions cutters as such, should of necessity be limited to cutters having shoulders with bearing faces on the inner sides

of the same, and having rounded corners 16 at the upper portions of such shoulders. There is absolutely no legal warrant for any such proposition at all. Each claim, as we have pointed out, must be separately considered. This appeal is not concerned with the interpretation to be given to claims 16 and 17.

Where claims vary in scope and cover different subjects-matter, and where one claim is limited specifically to certain parts and the other is not, the presumption is that the claims were made separate claims in order to obtain difference in scope as between them. Claims 16 and 17 single out the cutters. Claims 9 and 19 make them merely elements of combination claims, and claim 9 *does not specify anything as to lower shoulder formation other than that the cutters shall have faces to bear on the projecting lugs*. Clearly these claims 9 and 19 cannot be construed in accordance with any construction which, in limitation, may properly be given to claims 16 and 17.

It is also to be pointed out that the cutters of appellant's reamers are just as much "shouldered" cutters as the cutters of appellee's Wilson reamer, inasmuch as the lateral shoulders having the bearing faces 4³ in both reamers of the appellant and appellee have corners at their tops, and there is no reason why these corners must necessarily be "rounded." In the appellant's reamers these corners extend away from the shank at right angles thereto, that is from the plane of the shank extended down to the corners. Therefore, we contend that as far as the specification of the Wilson patent goes no distinction can be made in favor of appellant. Even if the bearing face in the Double cutter

is entirely across the cutter, the shoulders thereof extend beyond the shank at each side and the bearing face of each shoulder is at one side of the shank or the plane of the shank. It is these lateral surfaces in both appellant's and appellee's reamers that operate to prevent rotatory action, etc., and the appellant definitely projected its shoulders in order to obtain these and other advantages of the invention of Wilson. It is to be borne in mind that the infringing Double reamer was not cited as a reference against the Wilson claims and no limitation was put in the Wilson specification because of such infringing reamers. The citation by the patent office was of the *prior Double patents, the structures of which were modified by the appellant to include the Wilson patented combinations*. Therefore Wilson is entitled to what he invented over and beyond these Double patents and their prior structures, and that measure so applied to the infringing reamers will be found to warrant the finding of infringement made and even the finding of infringement as to claims 16 and 17 and others.

Claims 16 and 17, it seems, as appellant's contention makes it out, were rejected on Double Patent No. 2. This patent had only the supplemental dovetails or lugs 10, *which were no broader than the bodies of the cutters*. In this the bodies of the cutters do not extend laterally beyond the shank portions or the supplemental dovetails or lugs 10 thereof. These lugs were not extensions of the body at all, but were on the shanks, and they merely resisted outthrust, as the patent specifically states. The body of the cutter, having the cutting edge 9, namely, the portion below the dove-

tails, did not bear upon the hollow-slotted extension of the reamer at all and did not have any bearings which could so bear upon the body.

Counsel makes the astounding statement on page 109 that mechanical equivalents are not patentable. If this were so, no device infringing a pioneer patent could be patentable in itself, and every patent in an art after the pioneer patent in that art would be invalid. This is too absurd to require further discussion.

On page 92 of appellant's brief we find a comparison of cross-section of areas of the bearings of the Wilson and Double reamer-cutters. That, even if true, would not be material here. The point is that defendant in its infringing reamers provided definitely laterally extended shoulders with bearing faces, and lug elements with which such bearing faces engage. It is not a question of relative dimensions of bearing faces as such, *but as to the disposition of the bearing and intrust surfaces*. Appellant definitely provided the lug elements and the lateral shoulders to co-operate with the lug elements, and that is all there is to this question.

There is no warrant for counsel's statement, and in fact it is untrue, that the cutters of the infringing reamers are not broader in the bodies than the cutters of the old-style Double reamer prior to the period of infringement. Likewise there is no warrant for counsel's statement, and it is untrue, that the bearings upon the body of the reamer have not been broadened, namely, the spreading bearings. These bearings have been broadened and extended out beneath the ways or dovetails with which the shoulders on the cutter shanks co-act, to extend the same outward to the periphery

of the body just like the spreading bearings 9 of the Wilson patent. That Wilson did produce, and aimed to produce, broader or wider cutters is indicated by his specification, page 1 [R. p. 579], as follows:

“Objects of this invention are to provide an under-reamer of superior strength and of superior width and expansion of cutters so as to enable reaming as great a portion of the circumference of the hole as possible at each storke,”—

How is it, then, that counsel can say, as he does on page 94, that Wilson in his patent specification “has represented that what he desired to cover was *not* greater or wider intrust bearings, or cutters having wider bodies,”?

Judge Cushman did not reconstruct any of the claims; he merely applied claims 9 and 19 to the infringing structures in such manner as to make it clear *that appellant had reconstructed its reamers*, or the Double reamers, to infringe these claims. The reconstructing was not done by the Trial Judge, but by the appellant. As a matter of fact, our contention, as above elaborated, is that Judge Cushman *did not decree enough in favor of complainant*, and that numerous other claims found by him to be valid and unanticipated should have been found likewise infringed. Judge Cushman’s references to entirely shearing away the side web of the extension to form a lug, were merely descriptive in part of what appellant had done in appropriating the Wilson invention. It did not mean that if a part of this web had been allowed to remain,

infringement would not have followed,—referring now to page 108.

It is worth while to comment further with respect to the Jones removable bowl abandoned experiment reamer, of which E. C. Wilson has testified he never heard anything prior to testifying in this case, that appellant did not use the teachings of this abandoned device, but used the teaching of the Wilson patent, to guide in infringement, and this is the very bowl-mouth type of reamer against which appellant's counsel so violently declaimed in the companion suit reported in 237 F. R. Take away this bowl and the Jones reamer is inoperative. Add a bowl to the Wilson patent type or to the infringing reamers, and the reamer is inoperative, for the cutters cannot co-act with the shoe at the lower end of the casing to cause collapsion. The bowl then is of the essence of the Jones construction, and neither the Wilson patent shows, nor the appellant, uses such essence. It is evident from the testimony in this case that the appellant imitated the Wilson reamer to get advantage of the Wilson features that were sweeping the appellant's reamers from the field. The infringement did not occur until after the Wilson patent was put on the market. Comparison makes it plain that the appellant followed Wilson's teaching. It is a very desperate infringer that has to fly to such an unanalogous abandoned experiment as this Jones reamer to attempt to save its skin.

On the question of the O'Donnell and Willard reamer, it has been counsel for appellant's contention in the companion case that this is an abandoned experiment. We have fully contrasted this with the Wil-

son invention and have shown that it does not apply. Again we say that appellant praises all this heterogeneous prior art, *but he uses of the substance of the Wilson invention*. If defendant did not think so much of the Wilson invention, why did he put up the supersedeas bond for \$25,000.00 to stay injunction in this case pending appeal? If what defendant has made is similar to the substance of Double patent No. 2, why doesn't it make that type of reamer? Why doesn't defendant make the Jones removable bowl reamer? The defendant cannot make any reamer but the "Wilsonized" Double reamer and keep its place at all in the trade and field. This is proven by the record and further proven by the action, speaking louder than words, namely, the putting up of the large supersedeas bond mentioned.

It would seem very unsafe and unwise for counsel to make the statements he does on page 117 regarding Double patent No. 2, when he says the following:

"In reality defendant has used an improvement of the Double patent No. 2, No. 748,054, and the bearings referred to by Judge Cushman are as wide therein as in the 'Double Improved,' or Type 'D' or Type 'E' or Type 'F' reamers."

This is, of course, off the record, because there is no reamer in evidence like Double patent No. 2. A mere comparison of the types mentioned with the drawing of the patent is enough. Clearly it is apparent from the drawings in this patent that these supplemental dovetails or lugs 10 are on the shanks of the cutters and not on the bodies, and that the bodies do not en-

gage with the body of the reamer at all, and that the narrow lugs 10 of the Double reamer No. 2 cutters which, as the specification says, merely prevent the cutters from spreading outwardly or imparting out-thrust to the body, are not extensions or shoulders upon the bodies of the cutters. As to the width of such cutters, the most casual comparison with the infringing types of reamers in evidence will show the untruth of the statement of appellant's counsel. All of the other differences have been repeatedly pointed out above. Neither does this Double patent No. 2, of course, suggest anything respecting the body lug formation of the Wilson patent.

As to counsel's authority on page 128, we again insist that Wilson made a much more sweeping invention than is reflected in any one of the three Double patents. Reaming was not new with Double. He took a theoretical transitory step in the art, but it remained to Wilson to devise the *real* and truly effective and serviceable and durable reamer, not because of any one feature of his invention, but because of several features, of which defendant has appropriated many. Had defendant appropriated the *entire* Wilson invention it would not probably be true today that the Wilson underreamer has superseded the Double underreamer with so many large interests. What the appellant did was to appropriate enough from the Wilson invention to "keep in the game" and palm off its product as being "as good as" the Wilson. Judge Cushman, we believe, did not go as far as he might properly have gone in measuring the stride taken by Wilson in the art. This big step did not, we contend, make it proper

that the Double prior patents should in any material way limit the scope of interpretation of the Wilson claims— but quite the contrary.

**In Conclusion, Appellant Seems to Have Rested
His Case Upon the Particular Grounds:**

First, that the lower court, in spite of its repeated rulings and the rehearing granted appellant, erred in permitting the charge of infringement, broadly made in A-4 and only limited on the record in that case, to be enlarged and expanded by B-62 and in the consolidation of the two cases, and the other orders in connection with consolidation, so that the court might have brought before it *all* of defendant's infringing acts. Is this position equitable?

Second, that the Wilson patent is invalid for want of novelty, because of the abandoned Jones reamer experiment, the prior Double patents which appellant departed from in its infringement, and the O'Donnell and Willard patent for an entirely dissimilar thing and for a thing which has long since been disused, and which appellant, in case 1540, has insisted was an abandoned experiment.

Third, that the claims found infringed, albeit they are broad combination claims, must be limited to the specific form or shape of certain features of the cutters, elements of such claims, because those matters of form and shape were pointed out by the applicant in prosecuting his application, and in spite of the fact that they are not essential to the broad consideration of the combinations of the claims found infringed, and if at all

can only be pertinent to claims 16 and 17, not found infringed and which are not combination claims, and in spite of the further fact that there is no logical reason for finding the very cutters of the infringing reamers to fall outside of the very language of the specification and claims 16 and 17, inasmuch as such infringing cutters have shoulders with bearing faces thereon at opposite sides of the zone of the cutter shanks and are with respect to each other separated and spaced; and that the claims do not read upon the defendant's structures because they must be considered as only applied to reamers in which the cutter shanks collapse between the prongs.

Fourth, that appellant does not infringe because he does not use every feature and advantage of the Wilson invention, whether expressed in the Wilson patent or not, in spite of the fact that defendant clearly appropriates every material feature of the Wilson invention save and except the collapsion of the cutters between entirely spaced prongs.

As to defense No. 1, we contend that the record and minute orders of the lower court and the reiterated rulings of Judge Bledsoe and Judge Cushman established appellee's carefully planned and effective enlargement of the charge of infringement as beyond any possible attack.

The second defense, we believe, requires no further consideration. It is thoroughly disposed of by the attitude which counsel for appellant has repeatedly

taken in other cases before this court, and by the law as it stands in this and other circuits.

As to the third defense, under the authorities the patent is to be construed to protect the real invention (and can properly be so construed plus infringement), particularly under all the circumstances of the case, in which it is seen that defendant openly and knowingly and wilfully appropriated the invention.

As to the fourth defense, the test may again be said to be whether or not the appellant has taken of the substance of the Wilson invention, such test being clearly within the law as enunciated in this circuit in *Stebler v. Riverside Heights, etc., Company*, 205 F. R., *supra*, and which authority likewise holds it inexcusable for an infringer to make either an addition or an omission provided the substance of the invention be partaken of. And the law is that taking *any* part of the patent is infringement.

Appellant has taken the position in the companion case that the Double patent under which it has operated revolutionized the reamer art. If so, the defendant paid the highest tribute to the Wilson invention in departing from the Double patent construction and following the teachings of Wilson, who, as in the *Barbed Wire Patent Case*, 143 U. S., clearly took the last step in the art.

If appellant cannot sell its reamers without using the Wilson invention, it must be, first, that Wilson made a true and valuable invention, and, second, that defendant infringes the patent for the same.

We submit that it would be a gross miscarriage of justice to hold complainant's company for infringement of the Double patent, as found in the companion case, and to allow the defendant, Double's company, to go unenjoined and unpunished for its wilful appropriation of the Wilson invention.

We respectfully insist that Wilson made a broad and valuable invention, which is thoroughly and properly covered by valid patent, that the charge of infringement under same against appellant is properly brought before the court as to each of the claims asserted, and that the appellant has clearly and wilfully infringed claims 9 and 19 in addition to others of the claims as to which infringement is charged, in and by the manufacture of each and all of the types found in the decree of the lower court to infringe.

And we respectfully solicit that the decree of the lower court, and each and every part thereof, be affirmed, unless it be that modification thereof be recommended by Your Honors in favor of appellee as to further of the claims.

Respectfully submitted,

RAYMOND IVES BLAKESLEE,

Solicitor and Counsel for Appellee-Complainant.

No. 2918.

United States
Circuit Court of Appeals,
FOR THE NINTH CIRCUIT.

Union Tool Company,
Defendant-Appellant,
vs.
Elihu C. Wilson,
Complainant-Appellee.

Filed

JUN 8 - 1917

F. D. Monckton,
Clerk.

Appellee's Brief in Reply to Appellant's Reply Brief.

RAYMOND IVES BLAKESLEE,
Solicitor and Counsel for Complainant-Appellee.



No. 2918.

United States
Circuit Court of Appeals,
FOR THE NINTH CIRCUIT.

Union Tool Company, <i>Defendant-Appellant,</i> <i>vs.</i> Elihu C. Wilson, <i>Complainant-Appellee.</i>

Appellee's Brief in Reply to Appellant's Reply Brief.

Pursuant to permission granted appellee on the argument of this appeal, this brief is filed as a reply to appellant's reply brief. We shall attempt to review briefly the clear errors, misstatements, discrepancies, misrepresentations, and bald and wilful departures from fact and record, which counsel for appellant is guilty of in this brief and likewise on argument.

The desperation of appellant's counsel is evidenced, to a large extent, by the inconsistencies into which he has been led in this case by the very position which he took in the companion case No. 2996. But that desperation is more strikingly evidenced by such per-

formances as that reflected by pages 22 and 23 of appellant's reply brief, and the dishonest cuts inserted between such pages. How counsel could entertain the slightest hope of deceiving Your Honors by the wilful garbling of facts and evidence in this matter last referred to, is beyond belief. Such procedure certainly is a slur not only upon the intelligence and watchfulness of appellee and his counsel, but savors of direct insult to the intelligence of this court, and is a tampering with the dignity of this court, and likewise, we submit, a palpable violation of counsel's oath as an officer of this court. Later on in this brief will be found a true statement and disclosure of the facts and evidence garbled and distorted and tortured beyond belief by this matter on pages 22 and 23 of appellant's reply brief, and particularly the insert cuts between such pages. At the outset, therefore, we feel justified in moving Your Honors to refuse consideration of such brief of appellant, if not also of the opening brief of appellant and appellant's argument, not because we desire that appellant's case, weak as it is, be not given full consideration, but because, we submit, that an attorney who will commit such acts as these complained of is not to be believed and relied upon in any part or phase of his presentation of the case. When, in a patent suit, an attorney wilfully misrepresents a single example of the prior art, and also the infringing device which is totally at variance therewith, and with the patent sued under, and tries to tell the court by word and picture that the infringing device is the device of the obsolete prior art, it is hard to see where there can be any such cleanness of hands or semblance

of equity remaining in the cause so represented to entitle such cause to any consideration. *Not only does such procedure virtually amount to an overt admission of infringement, by virtue of the resulting concession that the infringer has followed the patent in suit and not the prior art, but such concession is made in that spirit of trickery and desperation which warrants the dismissal of the party so represented from the court, not only by formal affirmation of the decree of the lower court, but with a sharp and unqualified rebuke.*

We have had occasion before, and it has been and is, we assure Your Honors, a disagreeable performance of duty, to criticise the procedure of appellant's counsel on argument and brief before Your Honors, not only for error in *application of law, fact and evidence*, but for error by *misrepresentation*. In that cause decided by Your Honors recently and reported at 227 F. R. 607, in which the appellee in this present case was the chief appellant, and the president of the appellant in this case was an appellee, we found it necessary to file an elaborate reply brief devoted mainly to the cataloguing of similar procedure on behalf of the same counsel. The opinion in that case, we beg leave to state, shows clearly that this Honorable Court was highly dissatisfied with, and highly disapproved of, the inethics and inequities with which the appellee's cause in that case was tinged. We have had frequent occasion similarly to address ourselves in the lower court to this same kind of garbling and misrepresentation on behalf of appellant's counsel. It is because of our appreciation of the energy, resourcefulness and ability of counsel, that we are amazed that

he should stoop to such tactics as these; and the fact that he does, coupled with his ability and resourcefulness, can mean but one thing, to-wit, that ability and resourcefulness cannot win for him and his cause is without merit. Such procedure is not, to our mind, indicative of cleverness, and, as we cannot ascribe it to the quality of stupidity, we must find it embraced within terms which need not be further expressed and identified than as hereinabove set forth. We respectfully leave this motion to suppress, in effect, counsel's briefs and argument, to the discretion and the full sense of justice of Your Honors, believing no supporting formal motion to this end need be presented independently of this present procedure by brief, inasmuch as a full inspection and reading of the briefs of appellant's counsel and their consideration conjointly with appellant's counsel's argument, are necessary to fully apprise Your Honors of the extremes to which counsel has gone in the premises.

Probably the most glaring of such reprehensible acts on the part of appellant appearing in its reply brief is the audacious attempt of appellant's counsel to deceive this court as to the true construction and organization of the reamer body and cutters of Double patent No. 2, namely, Double patent No. 748,054, disclosed in the record, pages 982 to 987, inclusive.

Counsel for appellant has rightly determined that to obtain a reversal of the decree of the lower court he must successfully urge the following two fallacies:

FIRST: That the cutters of the infringing Double underreamers have *not* been changed in construction

from the old and obsolete Double reamer patent No. 748,054, namely, that the bodies of the cutters have *not* been broadened to provide shoulders to co-act with broadened or extended bearings on the Double underreamer body, and also to give greater cutting surface to the cutters; nor have the intrust bearings at the backs of said infringing Double cutters been transferred downward much closer to the cutting edge than as located on the old style Double cutters; nor that the cutters have not been so changed as to comprise distinct dove-tailed shanks.

SECOND: That to the Double underreamer body has *not* been added the WILSON LUG CONSTRUCTION or element, which lug is that wedge-like projection which extends downwardly a material distance below the extreme lower end of the dove-tailed grooves or cutter-ways of the reamer body, and which lug or projection better braces the cutters apart, shortens the leverage on the cutters, lessens the strain upon the dove-tails and effectively resists the rotatory action of the cutters, and enables the use of broader cutters which greatly facilitates underreaming and provides more stock for use in dressing out the cutters.

A comparison of the old style Double underreamer patents, namely, those underreamers covered by patent No. 734,833 and patent No. 748,054 (it having been impossible to discover and put in evidence actual specimens of these obsolete underreamers), with the Double infringing underreamers and with the Wilson underreamers, proves conclusively that such changes and such appropriations of Wilson's invention *have* been

made in each and every one of the Double infringing devices, namely, the Double Improved underreamer and the Double reamers types D, E and F, and that appellant thereby departed from the constructions of the Double patent and followed the teachings of the Wilson patent. The testimony and evidence in that regard is absolutely conclusive and irrefutable.

Now let us see what counsel for appellant attempts to do to escape the damning effect upon his case of those unscrupulous acts. Note the trickery to which he resorts in his desperation. We fully believe Your Honors will be shocked by counsel's audacity.

On the page opposite page 22 of appellant's reply brief are three illustrations, one of which purports to be an illustration of the body of Double underreamer patent No. 2, namely, the Double patent No. 748,054. Another of these illustrations purports to be the back or inner face of a cutter of that same underreamer, which underreamer, as above stated, will be found illustrated in the record in the Double patent No. 2 shown at pages 983 to 987 of the record. Also, on the same inset page is an illustration purporting to be that of the Double reamer type D of appellant, which reamer has been declared an infringement of the Wilson patent. Now note the deception: The illustration purporting to be that of Double patent No. 2, instead of being that reamer, is, with only one slight exception (namely, that there is no hole shown in the lower end for the spring-actuated rod), *an exact illustration of one of the Double reamers appellant is now manufacturing, and which it commenced to make not until after the decree of the lower court determined the Double*

Improved underreamer and Double reamers types D, E and F to be infringements of the Wilson patent. It is true that in putting this later reamer construction before Your Honors we are departing from the exhibits and proofs in this case, but we are confident that it will be excusable in that it is part of our argument in nailing the falsity of the brief of appellant and the cuts therein now under discussion. We do so argumentatively, but our argument, as the court will see, is based upon a photograph of a real reamer and not a mere draftsman's sketch. If given opportunity to do so by supplemental reply brief, counsel will not have the temerity to deny the falsity of this photograph nor the facts we state about this late infringing reamer.

The cutter illustrated on the inset page of appellant's brief, opposite page 22, instead of being a cutter of Double patent No. 2, namely, of patent No. 748,054, is a cutter of the *Double Improved reamer*, namely, an infringing reamer—minus the short groove in the bearing faces of the cutter!

Your Honors will remember we called your attention to this deception while in open court. Counsel had the temerity to pick up a cutter of Double patent No. 748,054 and attempted to show Your Honors that it was the cutter illustrated in his brief. We then showed Your Honors a cutter of the *Double Improved reamer* type and called attention to the fact that that was the type of cutter illustrated in the brief, thereby exposing counsel's trickery. It was only by chance that we stumbled upon this deception on the day of argument, inasmuch as counsel's reply brief was not served upon us until we arrived in court.

Now, the above facts can be very easily proven to the entire satisfaction of Your Honors. By referring to Figure III of the patent No. 748,054, illustrated on page 983 of the record, it is to be readily observed that there were no intrust bearings provided on the Double underreamer body, and which projected downwardly below the extreme lower end of the dove-tailed grooves 15. In other words, the Double underreamer body or Double patent No. 2 was not provided with the WILSON LUG ELEMENT. To make this point more clear please refer to the Wilson patent No. 827,595 illustrated on page 977 of the record. The lugs 2' of the Wilson reamer patent were wedge-like extensions of the lower end of the reamer body, which extensions projected downwardly to a considerable distance below the extreme lower end of the shouldered cutter-ways of the reamer body. As illustrated by those drawings of the Wilson reamer the cutters are better braced apart by the use of such lug formation, and the fulcrum point or the point of greatest strain to the cutter is transferred from the weaker portion of the cutter down to the stronger portion of the cutter, and also the leverage is greatly reduced by having the fulcrum point closer to the lower or cutting edge of the cutter.

The greatest strain-applied to an underreamer cutter, or the greatest breaking strain at least, is that which tends to crush the cutting edges together toward each other when reaming upon the narrow ledges in the hole. The reamer performs the function of enlarging the hole which has been drilled ahead by the solid bit. It is the universal practice to run the drilling bit to

some considerable distance below the casing, depending upon the nature of the formations. The bit is then removed and the underreamer is substituted. The underreamer simply enlarges the hole previously drilled by the bit, and it will readily appear that in doing so it simply cuts away an annular shoulder produced by the difference in diameter of the hole drilled by the bit and that underreamer by the underreamer. This operation has a constant tendency to crush the cutters toward each other as the formation or rock breaks inwardly toward the center of the hole as the underreamer performs its work. This has a tendency to constantly reduce the hole to a funnel shape. The very great stresses which tend to crush the cutters toward each other at their lower ends will thus be readily understood by Your Honors.

Therefore, the lug formation of the Wilson underreamer body which projects downwardly between the cutters a considerable distance below the shouldered cutter-ways, or dove-tailed shouldered cutter-ways, as in the Double, very much better resists these great strains imposed upon the cutters and consequently prevents the breakage to cutters and damage to the dove-tails of the reamer body, which breakage and damage promptly condemned the Double underreamer of appellant's original construction, namely, that covered by appellant's patents No. 734,833 and No. 748,054, and which damage and breakage, due to the lack of this Wilson lug element, were the chief causes for the complete abandonment of such Double reamers. Likewise, the advantages of the Wilson underreamer and the complete success in that reamer in overcoming the diffi-

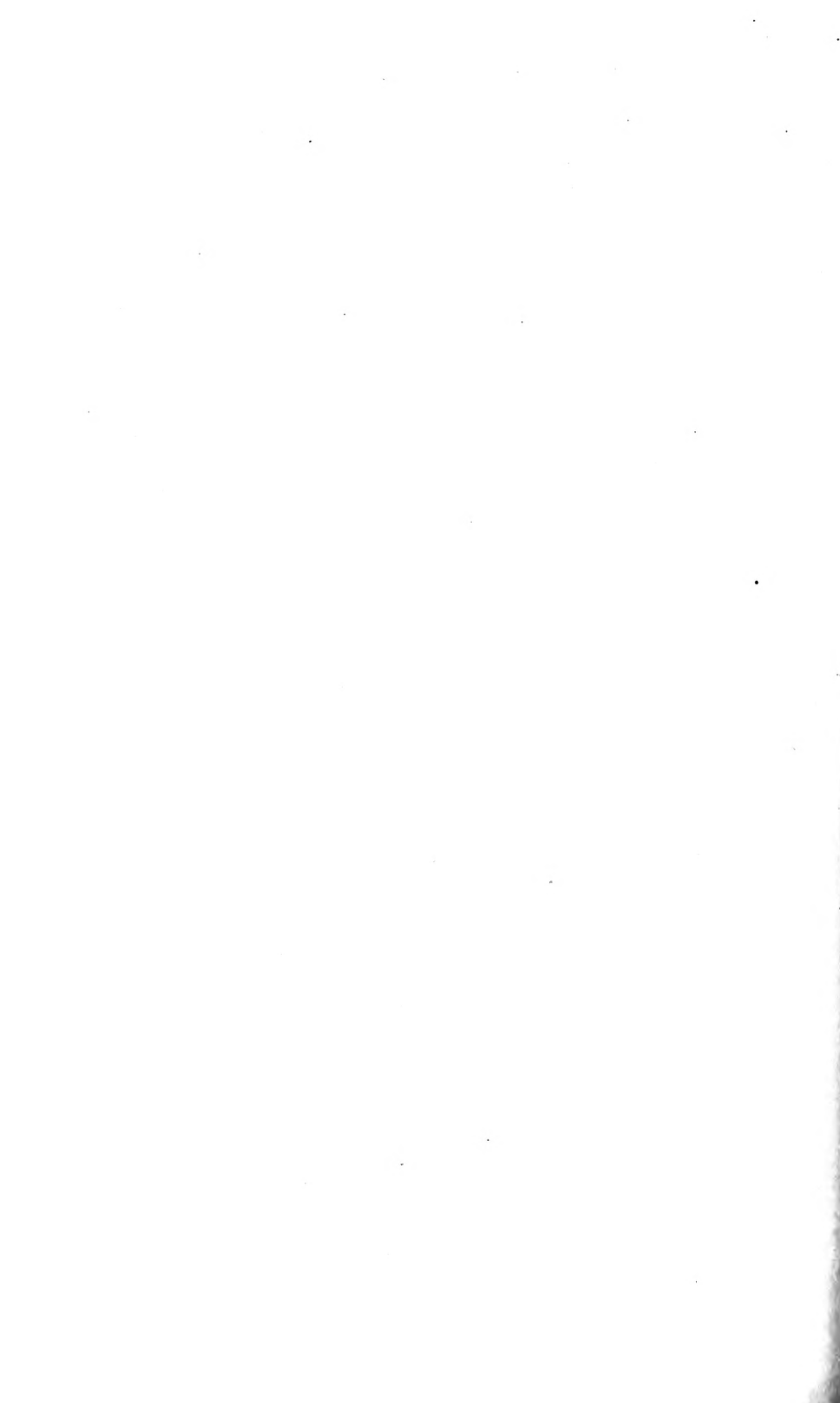
culties experienced in the use of the Double underreamer and all others which preceded, were promptly recognized by the appellant and were promptly adopted and incorporated in practically all of the reamers they have manufactured since the year 1905.

To again refer to the drawing on the page opposite page 22 of the appellant's brief it will be quite clear that the drawing purporting to be that of Double reamer No. 2, even though it has the fragments A, A, at the outer edges of the Wilson lug formation shown therein, nevertheless retains the major portion of the Wilson lug formation, which lug formation projects downwardly below the extreme lower end of the dovetails or shouldered ways of the body to form inner bearings for the cutters. With this point clearly understood the deception in that regard must fail to accomplish its purpose. The attempt to deceive this Honorable Court cannot succeed. Those little fragments A, A, as disclosed by the drawing, are very much broader and occupy very much more of the space of the Wilson lug formation of that reamer than is disclosed by the Double underreamers so-called which they have been manufacturing since the decree of the lower court, namely, the reamer shown in the photograph herein inserted and labeled "Appellant's Infringing Reamer Produced Since Decree."

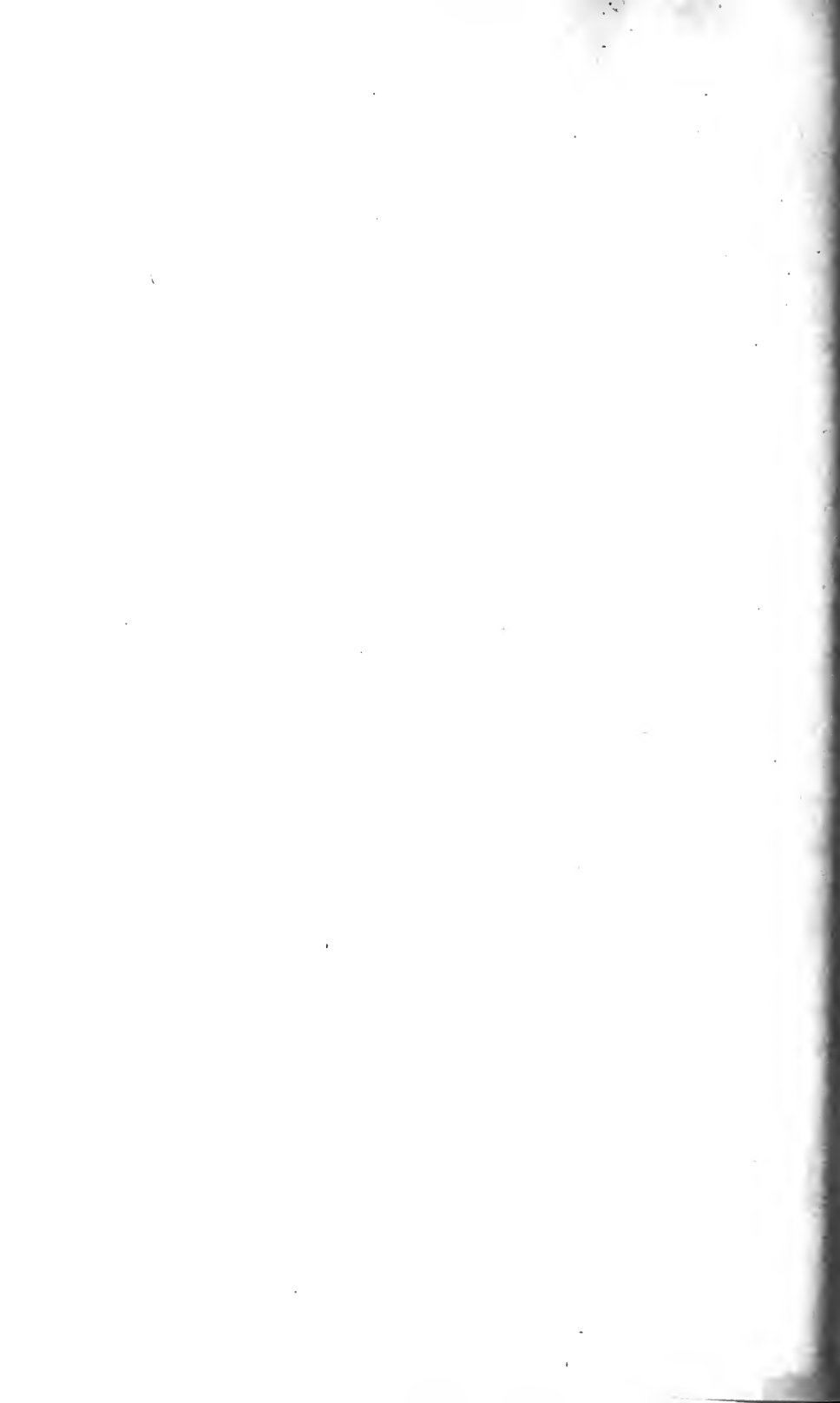
As a matter of fact, these fragments A, A, in the actual reamers are very thin and an insignificant feature of those reamers, and are obviously left there with fraudulent intent to avoid the decree, and that is appellant's representation in selling such reamers. The cutters themselves in this late type just referred to re-

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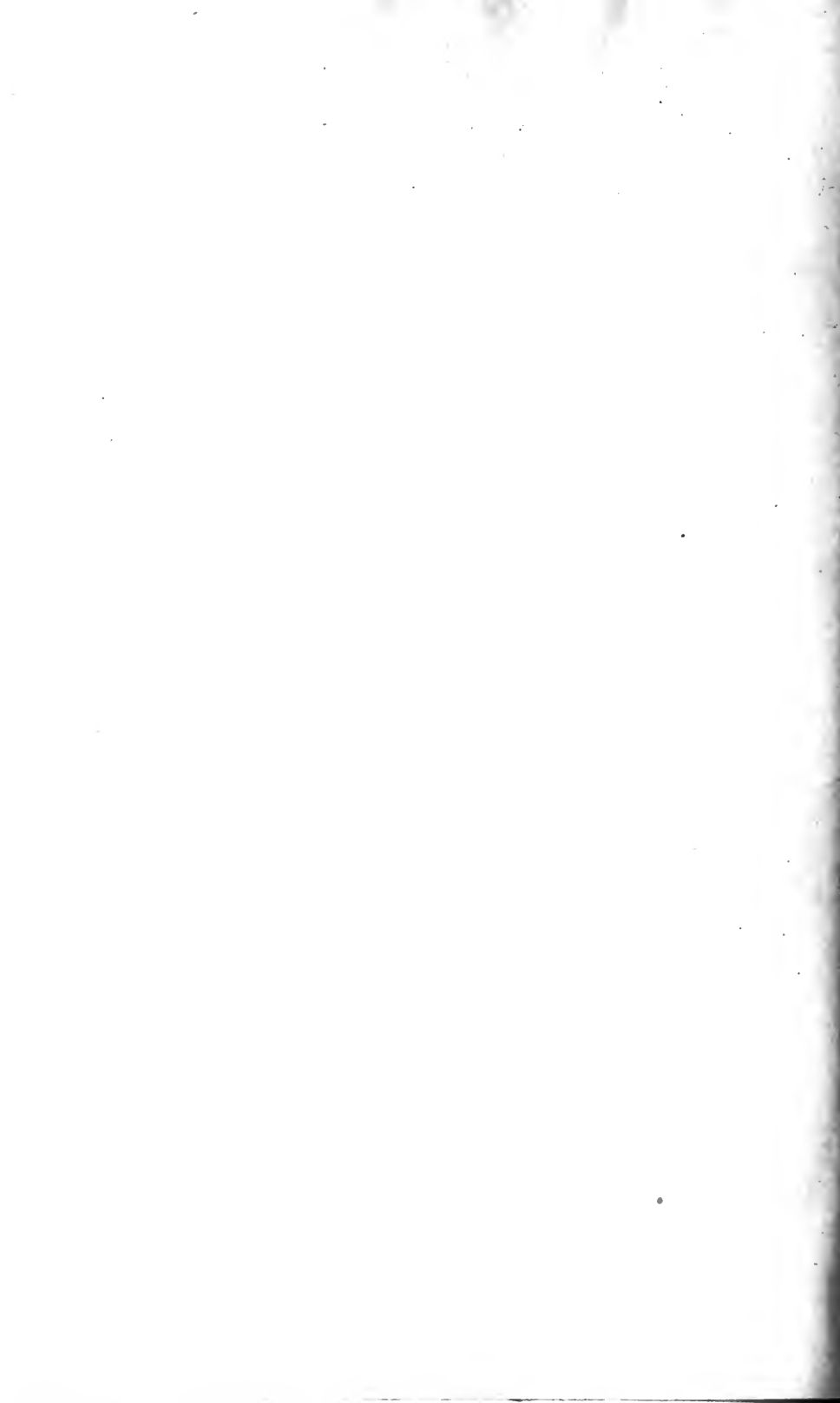


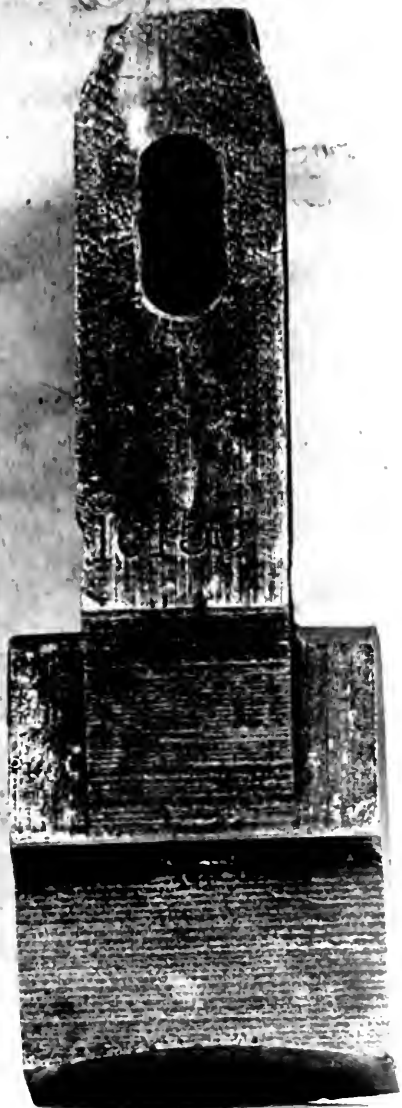




THE PATENT, CUTTING AND DRILLING TOOL
R. W. H. IY.









tain their usual full width, and the intrust bearing faces on the cutters, instead of being on the shanks of the cutters, are largely on the backs of the bodies of the cutters, just as on all the cutters of appellant's infringing reamers. This later reamer possesses every Wilson advantage of the other infringing reamers, excepting type F.

Now, as to the cutter purporting to be Double patent No. 2, a glance at that illustration in appellant's brief will instantly reveal the fact that it is not at all the cutter disclosed in patent No. 748,054, namely, Double reamer patent No. 2. This will be very clear when comparing this illustration of the brief with the inserted photo of an actual cutter of Double patent No. 2 (which cutter was found in old unsalable stock in a supply house), and which will be found to agree with the drawings of Double patent No. 2. Referring to appellant's illustration, the shoulders 10 on this cutter are very clearly the same shoulders shown at the back of the Double cutters of the Improved underreamer, such as shown in the inserted photo labeled "Appellant's Cutter Double Improved Reamer Type." An examination of the exhibit of this type of reamer will entirely convince Your Honors of such fact. All of the several cutters of the inserted photos are among the exhibits in this case and case No. 2996. Now, compare that same cutter illustration with the drawings shown in patent No. 748,054, and with photos inserted herein. The parts 10-10 of Figures V and VI of the cutters shown at page 983 of the record, are simply two small "lugs" which co-act with the grooves 15, 15, at the lower end of the reamer body, shown in Figures

III and IV. In no sense are these lugs 10 intrust shoulders extending beyond any shank of a cutter, and it will be noted that they are entirely independent of the portion of the cutter which forms the cutting edge. Not so with the cutter illustrated opposite page 22 of appellant's brief. The difference is very marked.

Counsel for appellant has very carefully evaded a side view of the cutter in his illustration in his reply brief for the reason that the shoulders 10, 10, of his illustration would then be shown to have no dove-tail or interlocking function as do the lugs 10, 10, of the Double patent No. 748,054. In fact, the features 10, 10, of the Double cutter, patent No. 748,054, page 983 of the record, are solely and simply dove-tails for co-acting with the grooves 15 of the reamer body to prevent outward spread of the cutters. [See R. p. 985, lines 16 to 21.]

If parts 10, 10, of appellant's cutter illustration had any dove-tail function, like "lugs" 10, 10, or Double patent No. 2, there are no groove or dove-tails on the body with which they could co-act. They could not enter the so-called dove-tails 15, 15, of the illustration, which are totally different and differently located, with respect to the grooves 15 of Double patent No. 2. The court should compare this cut with that of the Wilson reamer cutter, page 978 of record, and with the photographs thereof inserted herein, and also with the photo of the Double Improved cutter inserted herein. It will be seen that the cut of appellant's brief is of an infringing cutter, just as we contend, and clearly not of the cutter of Double patent No. 2.

The slight enlargement of the lower end of the

Double cutter of Double patent No. 2 cannot contact with the body of the reamer, and is no suggestion of the Wilson or Double infringing cutters with lateral intrust shoulders.

The attempt to deceive this court is unquestionably the most unmitigated falsehood that has ever come to our attention in patent causes. We are astonished beyond measure that counsel for appellant should attempt to so grossly deceive Your Honors by such crude means. Certainly such conduct on his part indicates very clearly that appellant is guilty of the charge of infringement; and that its vain and futile efforts just pointed out above to conceal such from this court, now leaves it in the extremely awkward plight of standing before this court, accused of theft and with the purloined goods in its possession. Its own acts are sufficient to convict it.

Thus it is demonstrated that contrary to appellant's deceitful brief and cuts therein, appellant, in its infringing underreamer, entirely departs from and abandons the obsolete and unsuccessful features and parts of Double patent No. 2, with the functions thereof; and wilfully employs the patented features of the Wilson reamer, with their novel functions, in order that appellant might attempt to compete with the fully successful Wilson reamer:—*such features being the wedge-like downwardly projecting lug element and the cutters having lateral shoulders co-operating therewith and forming intrust bearings down on the body of the cutters, such cutters also having definite shank portions with shoulders for the cutter-ways on the body.*

It is to be noted at this juncture that it is an open

trade secret that appellant is asserting that appellant's infringing reamer produced since decree is not an infringement of the Wilson patent; and it is thus seen how very lightly it regards the decrees of the federal courts, and how much it is disposed to ignore them. This we can clearly point out by again referring to the illustration in its brief on page opposite page 22. The lower drawing thereon shows (with the exception of the hollow for the rod) the extension or lower end of the Double type D underreamer body. It clearly shows the wedge-shaped projection, viz.: *the Wilson patented lug construction* projecting downwardly below the extreme lower end of the dove-tailed cutter-ways. Now, appellant attempts to show that it can escape the charge of infringement and still continue to use practically all of this Wilson lug formation by simply adding the small elements A, A, in the corners where the lug construction joins with the dove-tailed cutter-ways, thus producing the device shown in the photo herein labeled "Appellant's Infringing Reamer Produced Since Decree." In other words, it simply leaves that metal on that portion of the Wilson lug construction which portion it contends it never did use. When that is accomplished the infringing reamer, thus slightly altered, is exactly like the drawing shown just above it, namely, the drawing which appellant pretends to be one of Double patent reamer No. 2. This further explanation of appellant's illustration will even more clearly point out the fact that the drawing disclosed on that page purporting to be the drawing of a body of the Double patent No. 2 reamer is merely a slightly

changed reamer from Double type D infringing reamer, and is still a reamer well within the charge of infringement according to the findings of Judge Cushman. Such a subterfuge is in common with that other one which we have so pointedly indicated to Your Honors in our opening brief, namely, the use by appellant of the detachable block held in place by the bolt or detachable cross piece in appellant's type F underreamer; and which block, as we have previously shown, is used merely for the purpose of concealing the infringement of the Wilson patent, namely, as a subterfuge. It has been proven that such block is entirely useless and can easily be discarded and still leave the type F underreamer a usable and workable machine.

To emphasize our charge of the wilful, deliberate and painstakingly accurate imitation of the Wilson reamer, which is exemplified in the Double type F reamer, not only as to construction of each and all of its important elements, but even as to the tools and appliances used in assembling and operating it, we invite special attention to pages 1011 and 1100 of the record. On page 1011 are shown the Wilson reamer parts and tools and appliances and at page 1100 are shown the Double type F parts, tools and appliances. Notable among the examples of such painstaking copying are the one piece body of pronged type (1) of the Wilson and the Double body of same type (201), both having a slot for the key of identical form, namely, the key 15 of Wilson and 208 of Double; such bodies of both reamers having the Wilson shouldered cutter-ways on the inner faces of the prongs and the Wilson lug elements

at the ends of the prongs; the same key moving tool (16) of Wilson, and 209 of Double; the same pilot key 17 of Wilson and 210 of Double; the same detachable cross piece or safety bolt 8 of Wilson and 204 of Double; the same slotted tee 5 of Wilson (view in cut preventing slot being seen) and 206 of Double; the same flat coil spring 4 of Wilson and 207 of Double; the wrench 13 of Wilson for removing bolt 8 of Wilson and corresponding wrench 212 of Double for the same purpose—and so on.

The offer to the trade of this type F reamer, with its not only imitative construction but imitative appearance and arrangement of features, coupled with the issuance of this Double reamer catalogue matter, *all amounts to unfair competition*, of which this court can take cognizance under the authorities, and likewise constitutes an aggravation of infringement. On this head see *Ludwigs v. Payson Mfg. Co.*, 206 F. R. 60, 65, with the authorities cited therein.

Having thus pointed out a few of the *most* glaring misrepresentations of appellant's reply brief we will now revert to the brief as a whole and to indicate succinctly its other glaring misrepresentations and its woe-ful failure to meet our argument and our opening brief in this case.

Appellant's reply brief, generally speaking, may be subdivided into eight general topics, as follows:

First: Pages 1 to 10, an attempt to establish that appellee disagrees with Judge Cushman of the lower court in finding claims 9 and 19 of *the Wilson patent*

infringed; also objecting to cross references to case 2996 and to the Bole key case reported at 227 Fed. 607, in which some of the principal parties of *these cases* were involved.

Second: Pages 10 to 21, pertains to the alleged anticipating device, namely, the Jones removable bowl reamer, its so-called successful use and sale more than two years, prior to Wilson's application for patent thereby rendering it a part of the prior art; that the Jones removable bowl reamer was not abandoned but was suppressed by Double as an infringing device.

Third: Pages 22 to 29, that appellant is operating under three Double patents including the Double patent No. 2. That the appellant has in no way departed from the structural relations and correlations of parts set forth in those three Double patents.

Fourth: Pages 30 and 31, that the key and slotted tee means of the Wilson improved underreamer are the elements which enabled the Wilson underreamer to supersede the Double improved underreamer, and appellant intimates that it expects to prove that the Wilson key combination was publicly used more than two years before Wilson's application for patent on same.

Fifth: Pages 32 to 68, appellant attempts to rebut our argument and the testimony in this case *which establishes the Wilson pronged construction of the Wilson underreamer* as the basis of practically all of the numerous and highly important advancements in the underreamer art, many of them entirely new, first, by showing either that such features are not used by ap-

pellant; second, are not patented by appellee; third, are anticipated by the Jones' removable bowl reamer and the O'Donnell and Willard underreamer; fourth, and that the Double patent No. 2, namely, patent No. 748,054, as shown on pages 982 and 983 of the record, entitles appellant to use the features and elements disclosed by the Wilson invention.

Sixth: Page 68, that appellant has nothing whatever to do with nor is it in any way connected with the matter referred to in our brief and which appears in the testimony in this case, wherein its chief witness Thomas J. Griffin proposed and stated to appellee that for a certain consideration he would leave the jurisdiction of this court; that he would testify no further in these underreamer matters; that he was through with counsel Lyon; that he would give appellee the benefit of certain evidence which would be complete answers to all of appellant's charges of infringements of Double underreamer patents by appellee; and wherein he stated that Double had never invented anything; and that R. E. Bole had admitted to him that certain documentary evidence introduced by him in the Bole key case had been forged.

Seventh: Pages 68, 69 and 70, is an effort on the part of appellant to escape the charge that the end block of its type F underreamer is a subterfuge, and further that it has used the divided bearings on the backs of the cutters of Double underreamers since the time of manufacture of underreamer disclosed by its patent No. 734,833.

Eighth: Pages 72 to 83, is another lengthy, tedious and futile effort to establish its contention that cases A-4 and B-62 were not properly consolidated etc.

As to the first division of appellant's reply brief: We will merely say that appellee in no wise disagrees with the lower court in finding claims 9 and 19 of the Wilson underreamer patent infringed by the Double reamers of the improved type, and types D E and F. Counsel's contentions to the contrary are not based on facts. However, we even stoutly maintain that the lower court had ample proof that other claims of the Wilson patent than 9 and 19 were infringed and that he erred in not so finding.

Our position must be clear from our opening brief, namely, that Judge Cushman, in our view of the matter, was not only justified in finding claims 9 and 19 infringed, but should have as consistently found further claims infringed. As to a cross appeal, that will be filed in this case as the better authorities seem now to persuade us, after the coming in of the master's report on the accounting in this cause. We believe it proper, however, inasmuch as Your Honors may consider this entire cause *de novo*, to submit to Your Honors the suggestion that it would not be against the spirit of equity to modify the decree of the lower court and find still further claims infringed, within Your Honors' discretion, if such procedure and findings should seem meritoriously supportable. This would obviate the necessity of again presenting these matters to Your Honors, and further extending already lengthy litigation over these issues. To that end, further briefs

might be called for if Your Honors thought necessary or proper.

We believe we are fully justified in apprising this court of all the intricate circumstances and pertinent facts relative to these underreamer matters even though we are obliged to go somewhat beyond the testimony disclosed in this particular case to do so, realizing that this is a court of equity and that in deciding this case Your Honors will desire to be fully informed as to all matters bearing upon the inventions in question and upon the relations of the parties to these suits, as established by the companion cases now under submission.

Inasmuch as the two kinds of reamers, the Double reamers and the Wilson reamers, found to infringe in these two cases, have been found to contain each the invention of both Double and Wilson patents sued under in the respective cases, it cannot be seen how real equity and justice could be done in these suits without jointly considering the relation of both inventions to the art, and the importance of the steps taken by both patentees as reflected by the production and development of the final types of reamers which have made underreaming a true success. Likewise, under the circumstances obtaining here, the two cases require inter-related or conjoint consideration under the doctrine of equivalents. We have not, at any time, intentionally gone beyond the issues of this present case other than by what we believe is proper reference to such matters as come within the doctrine of *stare decisis* and by a consideration of the threads which unavoidably unite the fabrics of both these cases 2918 and 2996.

Upon the records of these cases, it is perfectly clear

that Wilson is the president of and the principal party in interest in the Wilson & Willard Manufacturing Company, and that Double is the president of the Union Tool Company, and that the Union Tool Company in case No. 2996 is the same Union Tool Company in case No. 2918, and the Wilson & Willard Manufacturing Company in case No. 2996 is the same Wilson & Willard Manufacturing Company as in case No. 2918. Identity of interest is not the principal point here. The principal point is that the same general interests have been found to use each the invention of the other interest, with its own, in the manufacture of its underreamer product.

Counsel's briefs and argument glaringly assert the fallacy that appellant can escape from the charge of infringement in this case by attacking this and that element of claims 9 and 19 found infringed, as to novelty, irrespective of the law that a combination claim is a claim for an entity, and anticipation of separate parts of the claim, even if possible (and it is not in this case), is not anticipation of the entity of the combination. Counsel has so many times asserted this phase of patent law himself in the courts of this circuit, and has so repeatedly to that end relied upon the doctrine of *Yesbera v. Hardesty*, 166 F. R., 120, 125 (C. C. A.), that we feel that this court must be fully aware of the fact that counsel knows this is the law.

At the bottom of page 3 of appellant's reply brief, counsel clearly distorts our contention in our opening brief, namely, that the words "prongs" and "fork" are used in the Wilson patent and claims in three cases or senses, namely, first, as a formation providing for close

collapse of the cutters; second, as a formation permitting complete assembling of the reamer at the bottom of the body and re-machining of the reamer, and, third, a formation whereby the cutter ways and the lugs with their spreading bearings are *connected* with the remaining portions of the body. All of the infringing underreamers use the invention of Wilson with respect to case three, and "Type F" reamer uses the invention with respect to cases two and three. It is not necessary to revamp either claim 9 or 19, for it reads clearly upon the infringing structures. They are not like the narrow, limited specific claims in the patent in suit in case No. 2996. Under the three "cases," other claims clearly are infringed. In view of the decree in case No. 2996 and the findings of equivalence therein, infringement inevitably follows in this cause. Should the decree in No. 2996 be reversed, infringement here would still be fully established by the facts and law of this case. And particularly because appellant has appropriated the novel features and combinations, namely, the lug element of the Wilson patent, and the cooperating parts. A proper interpretation of claims 9 and 19, with reference to the use of the term "prongs" as above pointed out makes such a finding of infringement unavoidable.

As to the second division: True to counsel for appellant's usual custom he has again endeavored to deceive this court by an effort to prove that it was the Jones removable bowl type of reamer which Jones was obliged to cease manufacturing in response to a notice of infringement from Mr. Double. That statement is entirely contrary to the evidence as we will show.

Furthermore, we will prove to the entire satisfaction of this court that the Jones removable bowl underreamer was abandoned utterly by Mr. Jones and that it has no place in the prior art, so far as any disclosures to E. C. Wilson is concerned, or in any respect.

Now, note the testimony of Frederick W. Jones in that regard (and we will refer Your Honors to his testimony in case No. 2996, page 903, in which he testifies in regard to this same matter):

“I remember of receiving a letter from Mr. Lyon stating that I was not to manufacture any more reamers, that it was an infringement of a patent that the Union Tool Company controlled. I don't remember the exact date, but it was sometime after we commenced to manufacture the *round nose reamer* with the circular cutters, like reamer in evidence, Defendant's Exhibit Wooden Model Jones Underreamer. That was in 1902 I believe. I didn't do anything about it. We quit manufacturing *those reamers at that time*. We did not want to get into a suit. We did not have no money to throw away for courts.

“Q. 335. (By Mr. Blakeslee): What was the substance of that letter?

“A. Well, I have already stated that the substance of it was that we was infringing on a patent of theirs, that we should not manufacture any more of the reamers.

“Q. 336. Was it an underreamer patent?

“A. Yes.

“Q. 341. (By Mr. Blakeslee): Were you from

that letter able to understand what reamer was referred to by the letter?

“A. Yes, certainly.

“Q. 342. What reamer was it?

“A. It was reamers that they were manufacturing.

“Q. 343. And what reamer was that?

“A. The reamer that was—that has just been on exhibition, exhibited here, the second reamer that was made. I cannot give you the numbers of it.

“Q. 344. You mean reamer like Double patent in suit #734,833?

“A. Yes.”

Again refer to testimony of Frederick W. Jones on page 907 of record #2996 which refers to the same subject:

“XQ. 371. (By Mr. Lyon): Now, after you had received this notice from me in the fall of 1902, to stop manufacturing, what you have here today said was the reamer like this wooden model, Defendant's Exhibit Wooden Model '(Jones Round Nose)' of Jones underreamer, and you and Skinner had stopped the manufacture of that, did you commence the manufacture of another type of reamer?

“A. Yes.”

And then the witness goes on to explain that the reamer which he then commenced to make was the Jones removable bowl type of reamer. Thus it will be clear to Your Honors that it was the *Jones round nose* type of underreamer which was suppressed by the notice from Mr. Double charging Jones with infringement. There is no testimony or evidence what-

soever in either of these cases to show that there was a second notice of any sort sent charging Mr. Jones with infringement. This one notice to which we have above referred is the only notice of infringement of Double underreamer patents received by Mr. Jones.

Quite clearly Mrs. Jones and George L. Skinner were in error of recollection in testifying that this notice pertained to the Jones removable bowl reamer, and equally clearly it referred to the Jones round nose reamer.

Now, to prove that the Jones removable bowl reamer was an abandoned experiment and that he discontinued its manufacture and sale simply because he could not sell them, we refer Your Honors to Mr. Jones' testimony, on page 790 of this record:

"Q. 114. (By Mr. Lyon): Why was it, Mr. Jones, that you discontinued the manufacture and sale or rental of underreamers like Defendant's Exhibit Fred W. Jones Reamer, types 1 and 2?

"A. I think the principal reason was that there wasn't any sale for them.

"Q. 115. And why was there no sale for them?

"A. I suppose the reason was they had to come into competition with other underreamers which could be sold cheaper.

"Q. 116. (By Mr. Lyon): Among which was the reamer manufactured by the Union Oil Tool Company at that time?

"A. Yes, and others on the market besides that."

Thus we see clearly that the Jones round nose reamer was discontinued by reason of Double's charges

of infringement and that the Jones removable bowl reamer which he made afterwards was discontinued because *it would not sell*. Mr. Jones had applied for a patent on the Jones removable bowl type of reamer, but its failures had been so pronounced that he did not even secure the issuance of that patent.

See his testimony on page 791 of this record:

“Q. 117. (Br. Mr. Lyon): Did you at any time file an application for letters patent of the United States upon either of these types of Jones reamer like Defendant’s Exhibit Fred W. Jones Reamer Type 1 or Defendant’s Exhibit Fred W. Jones Reamer Type #2?

“A. On type 2 the application was filed.

“Q. 118. Can you give the date upon which such application was filed with the serial number of such application?

“A. July 14, 1902, serial #115608.

“Q. 119. Was a patent ever issued to you on that application?

“A. No.”

Was ever a clearer-cut case of utter abandonment of an experimental machine presented to Your Honor? The device was abandoned in 1902. Wilson invented his underreamer in 1903 and the early part of 1904. It has been proven conclusively that Wilson never saw nor ever heard of the Jones removable bowl type of underreamer until that reamer was presented in this case. Therefore he was an independent inventor and can in no wise be barred from the benefits of his patent by the Jones removable bowl type abandoned underreamer.

It must be borne in mind that, if Wilson was an independent inventor, his patent is valid over anything that Jones worked out and abandoned. As said in *Lincoln Iron Works v. McWhirter Co.*, 142 Fed. 967:

“It is not enough to defeat the patent that someone other than Gilmour had conceived the invention before he did, or had even perfected it, so long as it had not been in public use or described in some patent or publication. If Gilmour was an original inventor, though a subsequent one, it was his right to obtain a patent unless he had ‘surreptitiously and unjustly obtained the patent for that which was invented by another who was using reasonable diligence in adapting and perfecting the same.’”

Wilson was the independent inventor of an *entirely different thing*. In case No. 2996, for the purpose of comparison, we find Double did not independently produce the subject of his patent but got it largely from the Jones round nose reamer, which, in principle and largely in details of construction, was the same thing.

Furthermore, the Jones removable bowl reamer is just what its name implies, a *bowl type* of an underreamer—one which relied on a bowl to hold the cutters in place. Wilson’s underreamer has no bowl element in its construction. Wilson’s underreamer comprises two prongs, so constructed and so arranged as to provide cutter ways for holding the cutters firmly in place in the reamer body, and cutter expansion means as well. The Jones removable bowl type of reamer discloses absolutely nothing of such a nature and can in no wise be considered an anticipation of the Wilson

underreamer, nor can it be in any sense a defense to appellant's infringement of the Wilson underreamer patent.

Commencing at the bottom of page 10 and running on through pages 11, 12, 13 and 14, we find a pronouncement of patent law pertinent to prior uses and abandoned experiments which does not coincide well with the same counsel's position in case No. 2996, as to the Jones round nose reamer, the O'Donnell & Willard reamer and others. However, it has been proven that Wilson never heard of this Jones removable bowl reamer, and Jones' own testimony shows that it was a mere unsubstantial dream in the reamer art.

There is found a wilful falsehood at the bottom of page 11 of appellant's brief, where counsel says: "It is clear that he considered this Jones reamer a part of the prior art, for he says [Record p. 75, third line from bottom]: 'This removable bowl reamer ANTICIPATED the fork on the lower extension.'" Now, the record really is as follows: "This removable bowl reamer anticipated the forking of the lower extension of the patent in suit in so far as permitting the rod integral with the head or tee thereon—which carries the cutters—to be inserted from the bottom is concerned." In other words, counsel forms a new sentence in his quoted matter, disassociating the matter therein entirely from the specifically qualifying remaining portion of the context, and he also changes the very wording of Judge Cushman's decree in so doing. Counsel's garbled

recitation of the testimony would make it appear that the “fork” itself was anticipated, when Judge Cushman merely stated that the “forking” was anticipated in so far as inserting the rod for the cutters from the bottom of the reamer is concerned. We have shown that this Jones removable bowl reamer could not be assembled at the bottom.

As to the third division:

As to appellant’s efforts to establish its contention that the Double underreamer patent No. 2, namely, the patent No. 748,054, by reason of its small “grooves” 15, and slight dovetail shoulders 10, on the cutters to co-act therewith, was in any sense a sufficient disclosure to entitle appellant to use the Wilson lug construction and cutters with lateral shoulders with inner bearings on the faces of such shoulders, this has been very thoroughly answered, we believe, by our previous remarks. Their statements and their illustrations in support of such contention are false and spurious and are entitled to nothing but the condemnation of this court. Clearly practically every one of the reamers which have been made by the appellant since the Wilson underreamer first went on the market in 1904 and 1905 are bold imitations of the Wilson underreamer, bold pieces of piracy and flagrant infringements of the Wilson underreamer patent. Equally clear will it be to Your Honors that the Double underreamers covered by their patent No. 734,833, as well as those covered by patents Nos. 748,054 and 796,197, have *long since been abandoned and off the market*; that the unprecedented success of the Wilson under-

reamer and its prompt adoption by the oil operators was the occasion for the abandonment of those so-called Double underreamers, and that appellant's production from that time on was of reamers including the Wilson lug construction, and cutters with shoulders extended laterally and with bearing faces on same to co-act with the Wilson lug formation, and cutters having broader cutting surface, shouldered shanks, etc., etc. Those facts they cannot deny. *The underreamers they have been producing since 1906 speak for themselves.*

We need not again repeat our oft reference to the decision of this court in *Stebler v. Riverside Heights Co. et al.*, 205 Fed. 735, and the views which Your Honors therein asserted with respect to the reorganization of any prior art device and the relation of such necessary reorganization to the patented device for purposes of attempting anticipation. As we pointed out on argument in these cases, the reamer manufacturer involved in these controversies who has departed from his patented type is the Union Tool Company. Wilson's company never has departed from the Wilson invention. *The appellant here made the change and is the true infringer.* When the appellant here reorganized its reamer to include the combinations of claims 9 and 19, found infringed, *it abandoned the combinations patented by the Double patent*, such combinations of the Double patent being of parts admittedly old. It is absurd to say that appellant continued to use the Double invention after it had gone over to the use of the Wilson patent combinations. It might equally well be said that such altered reamers contained the

Swan invention and the O'Donnell and Willard invention for both of the same have hollow bodies, spring-actuated rods for operating the cutters, hollow slotted extensions, and the like. What appellant did here was to totally abandon the combinations of the Double patent or of any Double patent and to adopt the combinations of the Wilson patent as per the claims found infringed.

Appellant departs from the record in stating that the Double reamers were manufactured and sold and used from 1901 to 1905 to the exclusion of all other reamers. This statement appears on page 25. It is refuted by the record in case #2996, and there is no attempted proof as to such matters in this case.

On page 26 and following we find an exceedingly illogical argument as to the Double improved reamer being different from the Wilson reamer because the Wilson reamer is even superseding such Double improved reamer. This latter fact shows that even with the features of the Wilson invention incorporated in the Double reamer it is not as good as the Wilson. It is still deficient because it retains characteristics of the reamers of the Double patent in suit in case No. 2996. It has the new combination of Wilson and in addition to that combination it retains defective features of the Double patented reamers. We have proven conclusively, we submit, that the infringing reamers embody point after point of construction and advantage clearly appropriated from the Wilson invention and patent. Our opening brief applies the law to this situation, showing that it is not necessary that the de-

defendant use all of the advantages of the patent in suit in order that infringement be found.

Counsel gives his own argument a direct negation at the top of page 30, when he admits that the removable block 7 of the Wilson patent permitted assemblage at the bottom. This was not in any Double patented reamer or in any prior reamer or patent. There is no evidence in this case or the other case to show that the Wilson reamer was not a complete success by the use of this block. The key of the later Wilson patent, which Bole and Double attempted to appropriate by surreptitiously patenting the same, is merely a better device for this purpose. Our references to the controversy waged over the key reamer combination are for the purpose of showing the continued policy of piracy by the defendant here, and such references are certainly proper because of the insistence of appellant in bringing this Bole patent into this case, and because of the fact that this key combination is used in the infringing type F reamer.

It is true that later on even the Double improved and types D and E were almost if not entirely superseded by the IMPROVED WILSON UNDERREAMERS, namely, the one having the detachable key and slotted tee means of suspending the cutters. The testimony of Hubbard, Wilcox, Pickering and others in this case thoroughly establishes those facts. So completely were they superseded that the appellant found it necessary, as we have previously and repeatedly mentioned, to make still another change in its underreamer and to more closely and more particularly copy Wilson's un-

derreamer. *This they did by producing their type F underrcamer* in which they actually abandoned the hollow slotted construction altogether boldly appropriating Wilson's pronged or forked construction with shouldered cutter-ways on the inner faces of the prongs, the Wilson patented lug construction at the end of the prongs for expanding the cutters, the cutters with lateral shoulders and shouldered shanks, the slotted tee and single-piece key means for suspending the cutters in the reamer body, and even using the Wilson safety bolt with merely an addition of the detachable block held in place by said safety bolt.

Counsel resorts to untruth on page 31 in referring to the features permitting the assemblage at the bottom of the Wilson reamer. The Wilson claims 5, 6 and 7, clearly cover this feature. Why counsel insists upon flying in the face of evident facts is beyond our comprehension. The Jones reamer cannot be completely assembled or disassembled from the bottom, and the "sub" or middle joint must be taken off for this purpose, and it cannot be remachined because the fixed spring-receiving shoulder in the body would be cut away. Counsel admits on page 34 that the spring cannot be inserted from the bottom in the Jones removable bowl reamer. Therefor in this respect it is not a pronged body in one sense in which the Wilson reamer is. It would be necessary to use the detachable spring seat of Wilson to make over the Jones removable bowl reamer in this respect. Defendant clearly infringes in type F in using parts which can be assembled from the bottom, whether or not of claims 9 and 19 specify assembling at the bottom. These

claims are not limited strictly to such assemblage. (See *Waterloo Cement Machinery Corp. v. Engel*, 240 F. 976.) The authorities cited by counsel on pages 35 and 36 should of themselves be sufficient to defeat appellee's case in suit No. 2996. To the present case they do not apply.

As to the fourth division of appellant's reply brief:

As just pointed out the Wilson key and slotted tee means for suspending the underreamer cutters was a later invention of Mr. E. C. Wilson. It was of great importance, but it had no part whatever in relegating the original Double underreamer to the abandoned list. The other and more prominent features of the Wilson underreamer had already done that without the aid of the slotted tee and one-piece key.

APPELLANT'S THREATENED ATTACK ON THE WILSON KEY PATENT BY THREATENING TO ESTABLISH PUBLIC USE OVER TWO YEARS BEFORE WILSON'S APPLICATION is exactly in keeping with Double and Bole's prior efforts to rob E. C. Wilson of that invention, which prior efforts will be clearly remembered by Your Honors as the instance where they attempted to prove that Bole was the inventor of that same key and same slotted tee form of underreamer. Such an effort on the part of appellant will probably receive scant attention by this court, inasmuch as in the Bole suit the complainants alleged that the invention had not been so publicly used over two years before Bole applied for patent, *and he applied before Wilson.*

As to the fifth division of appellant's brief:

Appellant's efforts to prove that the numerous great advantages of the Wilson pronged construction and the Wilson lug construction are not used by the appellant is ridiculous. The Double improved underreamer and types D, E and F clearly use the Wilson patented lug formation on the end of the reamer body, the broadened cutters, bearings on the backs of the broadened cutters; and in type F even the spaced pronged construction with the Wilson patented lugs, shouldered cutter-ways on the inner faces of the prongs, cutters with shouldered shanks to co-act with and to be operated in such pronged form of construction, single-piece key and slotted tee for retaining cutters in position, are all very clearly used. They do away with the middle joint of that type of reamer and assemble the reamer at the bottom. All these features are very apparent by even a casual glance at the infringing Double underreamers. It is to be noted that every one of these features is covered by the Wilson patent. It is to be also noted that in the type F Double reamers there remains scarcely one of the so-called Double elements.

As pointed out, the Jones removable bowl reamer was in no sense a reamer of such construction, nor was the O'Donnell and Willard, *as both were bowl types* of underreamers, having no shouldered cutter-ways for holding the cutters from swinging outwardly and being disengaged from the tee, nor were they in any sense *pronged underreamers so constructed as to engage and co-operate with the cutters entirely by the prongs.*

As referred to on page 39 of appellant's reply brief, any distinct differences pointed out by applicant Wilson in the patent office as between the patented Double reamers and the Wilson reamer do not avail appellant in attempting to escape infringement *in and by its reconstructed Wilsonized reamer*.

As has been clearly indicated in our opening brief the fact that Judge Cushman, although recognizing the differences in construction between the Wilson spaced pronged type and the Double hollow slotted type, in spite of such differences, found that the spaced pronged type of Wilson reamer was the equivalent of the Double hollow slotted type, places the two devices in the same category to the extent that when Double appropriated the lug or bearing and new features of cutter of the Wilson underreamer type and applied them to his hollow slotted type he immediately became an infringer of the Wilson patent. Wilson's patent grants him undeniable rights to the features he has invented and which Double has appropriated. Therefore, bearing in mind that the court has found the spaced pronged type of Wilson reamer to be the equivalent of the Double hollow slotted type, it becomes an indisputable fact that the Double improved type of underreamer, also types D and E, even though they still be of the hollow slotted type, are infringements of the Wilson patent within the clear meaning of claims 9 and 19 of that patent.

Type F is so clearly a deliberate infringement that no further argument is deemed necessary on that point.

It is to be borne in mind that it is *stare decisis* that the hollow slotted extension of infringing reamers D,

E and the improved reamer is the mechanical equivalent of the spaced prong termination or forked body termination of the Wilson patented reamer. That being the case, there can be no possibility of differentiating between these reamers so as to avoid infringement in this case, unless there be a reversal of the decree in case No. 2996. Such reversal, with the finding of non-infringement of the Double patent by the Wilson reamer, would not be fatal to a finding of infringement in this case, certainly not with respect to type F infringing reamer with its *spaced* prongs and detachable cross-piece between such prongs, nor even as to the other types, because the latter still contain the novel lug element of the Wilson patent and the cooperating cutters and lateral shoulders on such cutters of the Wilson patent, the cutters having the shouldered shanks and bodies of the Wilson invention. This substance of the Wilson invention, as included within claims 9 and 19, found infringed, and more specifically recited in claim 9, has been definitely incorporated in the Double reamers in reorganizing the same to depart from the Double patented reamer. We have seen that it is immaterial that there be specific differences in mode of operation of the Double and Wilson reamers as to the expansion and collapshion of the cutters, for the *primary purpose and function of this cooperating lug element with its spreading bearings, and the cutters with lateral shoulders, is to hold the cutters spread apart AFTER EXPANSION, and to prevent rotatory action of the cutters tending to rip out the ways.* Likewise we find that this combination of novel features provides for a lowering of the inthrust bearing

down to and upon the body of the cutter, reducing the leverage of the cutter and its tendency to break out the ways on the body, and strengthening the cutter. In all these respects, the Double infringing reamers and each of them have followed the Wilson invention and infringed the claims thereof which cover such features. On this question of permissibility of differences in specific mode of operation in expansion and collapse, we again call the court's attention to the fact that both the Wilson reamer and the Double reamer type F include the key combination of the Wilson patent issued after Wilson, and not Bole, was found by Your Honors to be the inventor thereof. All the other features of the claims found infringed are present in the infringing reamers, namely, the body, the shoulders forming ways for the cutters, and the cutter shanks having shoulders cooperating with such ways. When defendant reorganized its reamer to provide this Wilson patented lug element, and added lateral shoulders to the cutters to cooperate therewith, and lowered the fulcrum point of the cutters, it did not merely change the Double reamer in sizes and shapes of parts, but, as we have seen, it entirely eliminated features of the Double reamer such as the lugs, 10, and grooves or pockets, 15, of the Double patent No. 2 and put in place thereof the Wilson patented elements. It is to be noted that in no one of the Double patents prior to Wilson, as well as in no other alleged prior device or prior patent, is there to be found this patented Wilson lug element arranged below the zone of the dove-tails or cutter-ways on the body and extending laterally beneath and beyond the same. We

have previously pointed out that whether or not the lug element be continuous as in all of the infringing reamers but type F or in two parts as in type F and connected by a detachable cross-piece and block, infringement still follows under the doctrine as to subdivision of parts, as exemplified in *Nathan et al. v. Howard*, 143 Fed. 889, p. 893, where it is said:

“Neither the joinder of two elements into one integral part accomplishing the purpose of both and no more, nor the separation of one integral part into two, together doing precisely or substantially what was done by the single element, will evade a charge of infringement. *Bundy Mfg. Co. v. Detroit Time Register Co.*, 94 Fed. 524, 538, 36 C. C. A. 375; *Dowagiac Mfg. Co. v. Brennen*, 127 Fed. 150, 72 C. C. A. 257.”

From page 49 on counsel refers to authorities which do not apply to the broad Wilson claims of the broad Wilson invention, but are sufficient in themselves for reversal of the decree in case No. 2996 in which appellees there hopelessly limited their specification and claims to specify details which appellant there does not employ. We invite the attention of the court to the file wrapper and contents of the Wilson patent as to the scope of the claims as originally inserted and as issued. The claims 9 and 19 never were changed in material substance.

As to division 6 of appellant's brief as shown on page 68:

Quite obviously the statements of appellant's chief witness, Thomas J. Griffin (and upon whose disreputa-

ble testimony appellees very largely rely in case No. 2996), as testified to by Mr. E. C. Wilson (after Griffin had hung his head in shame and silence and refused on advice of counsel to affirm or deny the facts), wherein Mr. Griffin had made the statement that Mr. Double had never invented anything, etc., etc., were so damaging to their cause, indicating so clearly the real position of Edward Double as an inventor so-called, that they were overwhelmed thereby and their only answer is: "That there is nothing whatever to connect defendant with the matters or things referred to." The position they take in that regard is so weak and so lacking in sincerity as to clearly establish the inference that they are unable to deny the statements made by Thomas J. Griffin, as we have shown to be the fact.

When Your Honors realize that the cases of appellant here and of appellees in #2996 are largely built up around the testimony of this person Griffin, who for many months was the handy man of counsel and his errand boy in getting together evidence for these cases, and sat at counsel's side during the taking of the lengthy proofs out of court in those cases as confidential adviser; and who, as the records show, was, until his death, jointly interested with Edward Double in many patent matters and in patent litigation involving appellee here;—when all these things are considered and the tactics and deportment of the person Griffin as above pointed out are borne in mind, the questionableness of the causes of the other side and their want of equitable cleanness of hands will be strikingly evident.

As to the 7th division of appellant's brief, pages 68, 69 and 70:

That the block or removable piece which is held in place by the safety bolt between the prongs of the Double type F underreamer is merely a subterfuge and an attempt on the part of appellant to mask its infringement is so clear and so certain as to render argument on that point absolutely unnecessary. That certainly is the only purpose of that block. They say that it is necessary in order to support the cutters. That statement is perfectly ridiculous. The intrust bearings on the lugs of the type F Double underreamer body are just as broad as are those on the lugs of the Wilson underreamer body, and not one single instance is there in both these records of even one complaint that the cutters of the Wilson underreamer are not properly braced and sufficiently braced by those lugs of the Wilson reamer body. Why then should the block be necessary in the Double type F? The answer is clear—the block is not necessary, it is a subterfuge, a mask by which appellant hopes to escape the charge of infringement. That appellant's statement that it has always used the grooved or divided bearings on the backs of Double reamer cutters is false, is shown by the exhibits in these cases and the photo herein of Double patent No. 2 cutter which was of a reamer later in production than that of Double patent No. 734,833.

As to the eighth and last division of appellant's brief, pages 72 to 83:

So thoroughly has our opening brief gone into the matter referring to the consolidation of cases A-4 and B-62, so thoroughly has it reviewed the rulings of Judge Bledsoe and Judge Cushman on the matter, and so clearly has it been established that their rulings were right and proper that we deem it hardly necessary to say anything further on that point.

This clutching at a straw technical defense has been disposed of three times by the trial court and is against all the equities of the issues. In B-62 bill we merely set forth the limitation to certain claims by election in A-4, which we were departing from by broadening out the issues by the bringing of B-62, and the procedure to be had thereon. There is no proof of any order of consolidation being granted on any representations other than those of the clear pleadings in the cases.

On page 79 counsel ignores the fact that two orders of consolidation were made and that appellant answered B-62 or the consolidated case after the order of consolidation was first made.

There was nothing in appellee's counsel's earlier statements, as Judge Cushman sets forth, to bar the extension of the charge of infringement. The remarks, such as that referred to by counsel on page 60 of appellant's brief, referred simply to the issues in A-4, but not as to the issues raised in B-62 and therefore in the consolidated cause.

There is but one decree in the *consolidated cause* A-4—B-62.

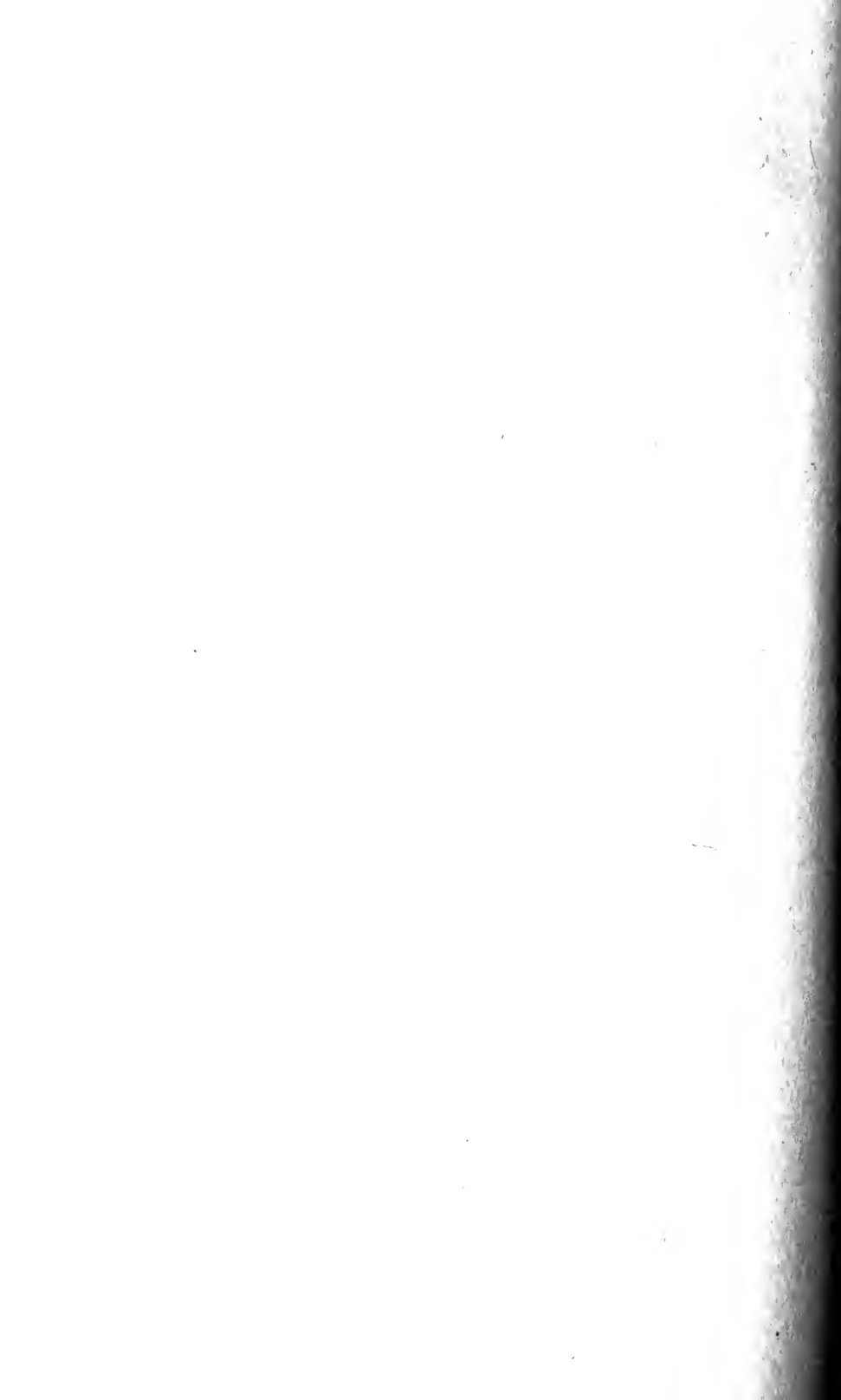
The statute of limitations has nothing to do with the case. We are only going to recover of course for the six years prior to the filing of our bill, and the defendant was organized only six years prior to the filing of the bill in B-62.

The pleadings in the case, under the rules, and the orders of Judge Bledsoe, all speak for themselves, and we come before this court with a meritorious cause of action against a wilful pirating defendant, and upon amply sufficient, if not over sufficient, and substantial, pleadings and proofs. The appellant in this case is the party who has changed position, moving over from the much-vaunted Double patented territory into the Wilson patented territory. The Wilson interests, appellant's in case No. 2996, did not so change over, but stood by the basic invention Wilson made, in unexplored territory in the reamer art. As we said at the argument, the Union Tool Company is therefore the infringer, not Wilson's company, the Wilson & Willard Manufacturing Company. The Wilson patent gave the reamer art the full substance of what it relies upon today in practice. The decree, we submit, should be affirmed, if not modified in favor of appellee. Falsification by brief alone should condemn appellant.

Respectfully submitted,

RAYMOND IVES BLAKESLEE,

Solicitor and Counsel for Complainant-Appellee.



No. 2918. 5

United States
Circuit Court of Appeals,
FOR THE NINTH CIRCUIT.

Union Tool Company,	}	
<i>vs.</i>		<i>Appellant,</i>
Elihu C. Wilson,		<i>Appellee.</i>

PETITION FOR REHEARING.

A. V. ANDREWS,
WILLIAM K. WHITE,
FREDERICK S. LYON,
Of Counsel for Appellant.

No. 2918.

United States
Circuit Court of Appeals,
FOR THE NINTH CIRCUIT.

Union Tool Company,	} <i>Appellant,</i>
<i>vs.</i>	
Elihu C. Wilson,	} <i>Appellee.</i>

PETITION FOR REHEARING.

The defendant-appellant feeling itself aggrieved by the decision herein rendered by this Honorable Court on February 11, 1918, comes now and respectfully petitions the court for a rehearing of this cause upon the grounds hereinafter stated.

I.

(a) The District Court fell into the manifest error of failing to give claims 9 and 19 their plain meaning and decided this case without regard to the subject matter to which said claims are directed and without regard to the meaning asserted thereto by appellee

when presenting the same to the patent office for allowance; and

(b) This court has failed to correct this obvious error or to point out the true interpretation or meaning of either of these claims or adjudge the scope thereof, or to construe either of said claims; and

(c) Has failed to apply in its decision herein the rule of construction announced and applied in its decision contemporaneously rendered in the companion case No. 2996.

II.

This court has fallen into a misapprehension as to the issues raised by the pleadings in the two cases A-4 and B-62.

III.

This court has apparently fallen into the error of considering this appellant's appeal *not on appellant's assignments of error*, but as though the case were before the court on an appeal by appellee and has decided the case solely from such viewpoint and not considered that only the matters raised by appellant's assignments of error are before the court.

1. Prior to the Double patents there were underreamers, but they were not adapted to the deep drilling required in California. Double invented and patented successful underreamers under three separate patents. Later Wilson produced an underreamer and obtained a patent.

2. *Taken separately*, the mechanical elements in the Double underreamers were not new, but the *combination* of these elements and the resultant “modes of operation” were new.

3. *Taken separately*, the mechanical features of the Wilson underreamers were not new, but were designed to be improvements upon existing reamers; but the *combinations* of certain of the Wilson features were somewhat different and the resultant mode of operation was in part the same or the mechanical equivalent of Double’s reamer, and in part was an improvement upon the Double mode of operation,—while using a large part of the Double contribution to the “prior art” as a basis for the Wilson improvement.

4. The District Court apparently saw and recognized these facts, *abstractly*, but failed to hold in mind and apply what was truly covered by the Wilson patent under claims 9 and 19.

5. The District Court enlarged claims 9 and 19 by “judicial construction” beyond their true import and read into each of them features which are in no wise found in the claims themselves and which are not at all original with Wilson and which formed no possible part of any “combination” described by either of these claims. *And read out* of each of these claims the distinct improvement which Wilson asserted he had produced and by which he differentiated his invention from the Double reamers in securing the grant of his patent.

6. It cannot be shown that Wilson's "combination" of features or his distinctive "mode of operation" has been infringed by any Double device as to claims 9 and 19, if the normal, plain and unambiguous meaning of those claims be followed.

7. Neither the District Court nor this Honorable Court has undertaken in case No. 2918 to point out the exact things about the Wilson device which are owned by Wilson as the new and novel features under claims 9 and 19, and of which he is by those claims given a monopoly.

Insofar as the District Court has undertaken to point out any such features not plainly described on the face of claims 9 and 19, it has created for Wilson by super-adding to those claims entirely new matter not therein contained, and an entirely new and additional combination which was never passed upon by the patent office and which Wilson never claimed to have invented.

This court has not followed the District Court in the full extent of its "creative excursion," but has failed to distinguish between *what is* and *what is not* within the terms of claims 9 and 19 *and has gone afield into a discussion of other elements and features in no wise found in either claim 9 or 19 and not before this court.* Indeed, the greater part of the opinion appears to be a discussion of the distinctive features of "Type F" and a showing of points of similarity between that and the Wilson reamer, matters entirely outside of the combinations of claims 9 and 19.

Having devoted the principal part of the opinion to "Type F," which in all of the particulars especially

emphasized is entirely different from any other Double reamer, the court makes the mistake of treating this discussion of "Type F" as fairly disposing of the really important devices which the discussion does not at all involve.

If "Type F" alone were the item of infringement before the court, there would be no practical advantage to the Union Tool Company in prosecuting this litigation because so few of these reamers have been marketed and at such expense that "Type F" is negligible. Defendant made only 65 "Type F" reamers, yet it made over 4900 "Double Improved," approximately 200 "Type D," and two (2) "Type E" reamers. Instead of the "Type F" reamer being the issue of importance, the important constructions have not been considered. When, however, the features of "Type F," which are not common to any other type, are made the occasion for condemning each of the other types without any discussion whatever or apparent appreciation of the fundamental differences, we respectfully direct the attention of the court to this oversight and to the necessary injustice resulting therefrom.

8. When the definite boundaries of the Wilson monopoly under claims 9 and 19 are fixed,—in the light of the Wilson "mode of operation" as distinguished from that of Double and others,—it will be clearly seen wherein the District Court went astray in holding that without at all using the Wilson "mode of operation" or any Wilson "combination," and while retaining the Double "mode of operation," Union Tool Company still was guilty of infringement.

Because this analysis of the plain and obvious meaning of claims 9 and 19 should not admit of serious mechanical dispute, but apparently has eluded the Honorable District Court and has not been so presented to this court as to receive the consideration which we submit it demands as a controlling factor of the case, it is evident that there is ample reason why we should undertake to remedy in this petition what must have been our previous fault in presenting this simple yet all-important subject.

**Failure of Court to Apply in Its Decision Herein
Rule of Construction Announced and Applied
in Its Decision Contemporaneously Rendered
in the Companion Case No. 2996.**

In the opinion herein, defendant-appellant's Type F underreamer is discussed at length and its structural features compared with the structural features of the respective combinations covered by claims 9 and 19 of the patent in suit. In view of such elaborate consideration of Type F, we refrain from requesting the court to again direct its attention thereto.

In view of the obvious fact that Type F, in form and appearance, much more closely resembled *in looks* the device, disclosed in the Wilson patent in suit, than did defendant's other types of underreamers respectively designated in the record as types D and E and "Double Improved," which in no wise resemble it, it was good strategy, on the part of opposing counsel, to devote most of his attention and, thereby, direct the court's attention, in the main, to said Type F device, which is of negligible consequence.

By reason of the court's opinion almost exclusively dealing with Type F, we feel that the question of infringement, in respect to said Types D, E and "Double Improved," has not received the attention its importance deserves.

In its opinion in the companion case No. 2996, brought by the defendant-appellant herein against the Wilson-Willard Manufacturing Company, this Honorable Court says:

"It must be held that the Double patent should be strictly construed and the patentee, having limited himself to the elements of his combination, is limited in the construction of his claim to the device shown. *Oriental Tissue Co. v. Louis De Jonge & Co.*, 235 Fed. 296. The importance of this point is emphasized by the record which shows that Double cancelled his claim No. 8 and substituted claim No. 7, limited his specification and amended his claims to provide for opposite parallel bearing faces upon his hollow slotted extension. *He thus eliminated from his claims those things which were excluded by surrender of scope and of definition of his claimed combination.* *Wright v. Yengling*, 155 U. S. 47; *Roemer v. Peddie*, 132 U. S. 313; *Green v. Buckley*, 135 Fed. 520." (Italics ours.)

The well established rule of claim construction, so referred to, is expressed, by the Supreme Court in said case of *Roemer v. Peddie*, as follows:

"This court has often held that when a patentee, on the rejection of his application, inserts in his specification, in consequence, limitations and restrictions for the purpose of obtaining his patent,

he cannot, after he has obtained it, claim that it shall be construed as it would have been construed if such limitations and restrictions were not contained in it."

In the companion case, No. 2996, such rule is applied to the *disadvantage of the defendant-appellant herein*.

We respectfully submit that such rule is more applicable to the facts of this case and should be applied herein *to the advantage of the defendant-appellant*.

In the case at bar, as a necessary basis for the finding of infringement thereof by Types D, E and "Double Improved," claims 9 and 19 of the Wilson patent in suit, must be construed as covering *the prior patented Double underreamer body and extension* plus projecting lugs thereon to hold the cutters apart, because each of said underreamers, in fact, does embrace such prior Double underreamer body and extension, and not the Wilson "*body terminating in prongs forming a fork.*"

The question presented by such finding is whether said claims can be properly so construed in view of the Wilson file wrapper, wherein it appears that the patentee, Wilson, in his application, as originally filed, attempted to cover just such a combination of *the prior patented Double underreamer body and extension plus projecting lugs thereon to hold the cutters apart* and his claims thereon were rejected.

In other words, some of Wilson's original claims covered any kind of an underreamer body plus projecting lugs at the mouth thereof to hold the cutters apart and *said claims were rejected*.

The patentee, Wilson, was unable to convince the patent office that he was entitled to a claim covering the downwardly projecting lugs and cutters having bearings on their respective bodies engaging such lugs *except in combination with his specific type of under-reamer body, as specifically distinguished by him from precisely the same body formation found in each of said Types D, E and "Double Improved."*

We, therefore, respectively submit that an application of such rule of claim construction, announced by the court in the companion case, prevents claims 9 and 19 being construed to cover Types D, E and "Double Improved."

As the lower court's decision, finding infringement by Types D, E and "Double Improved," is affirmed by this court without any discussion of such question of infringement by said types, we assume that this court adopts and approves Judge Cushman's line of reasoning prompting him to make such decision. We, therefore, shall consider his views on this question.

In the opinion of the lower court herein, His Honor, Judge Cushman, said:

"Passing to claims 9 and 19, it has already been found that, as ways for the cutters to slide or ride on, the faces of the prongs and lugs were no more than equivalents of the ways found in the Double invention; but insofar as these prongs or lug faces afford bearings for the cutter when in reaming position is concerned, a different question is presented, and *this is the feature covered by claims 9 and 19.*"

In order to clearly define and describe the “*feature*” covered by said claims, Judge Cushman proceeds to state:

“In the machine of the Double patent and original design, the slotted web of the lower extension helped to form a pocked for the cutter and furnished the intrust and outthrust bearing for the cutter shanks and extended to the very bottom of the reamer body. This, necessarily, resulted in two things: an inner bearing for the cutter head, narrow as compared with the diameter of the extension upon the reamer body, and weakened to some extent by the slots therein. In the patent in suit, the lower portion of the outer web is cut away, giving the cutter less lateral and greater intrust bearings. The lugs on either side are thereby created. The outer faces of these lugs form bearings for the inner shoulders on the cutters. This formation enables the maker—because of the removal of the side web—to give the cutters a wider inner face and inner bearings at the outer side of the inner face of the cutter.”

The “*feature*” covered by claims 9 and 19, according to Judge Cushman’s construction thereof, resides, therefore, in the provision of the *lugs 2" projecting at the sides of the lower end of the underreamer body to hold the cutters apart.*

Of course, if such “lugs” hold the cutters apart, when in reaming position, such cutters must necessarily have *bearing* faces co-operating with the *bearing* faces on the lugs. In other words, the presence of such “lugs” in an underreamer, for the purpose of holding



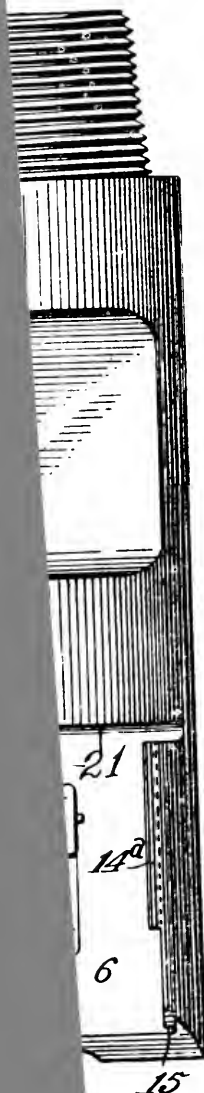
WILSON'S
PRONGED BODY
RECORD PAGE 1011



209

"DOU
IMPROVED

III



ENT

apart the cutters therein, necessarily implies the presence of cutters having bearing faces co-operating with the bearing faces on the lugs, otherwise the lugs could not hold them apart.

According to Judge Cushman's construction of claims 9 and 19, said claims should not be limited to the specific details of construction therein specified and constituting the "body" portion of the underreamer, because, as he says in substance, the "*feature*" covered by these claims does not reside in the "*body*" portion, *but in the lugs projecting therefrom and co-operating with bearings on the cutters.*

According to our interpretation of Judge Cushman's opinion, it is a finding to the effect that the invention covered by claims 9 and 19, is the combination with "*any kind of an underreamer body*" of lugs projecting from the lower end thereof to hold the cutters apart.

Furthermore, in finding said claims 9 and 19 infringed by defendant's underreamers, Types D, E and "Double Improved," we respectfully submit, that this court, as a basis for such finding, necessarily construes said claims as covering "*any kind of an underreamer body*" provided with lugs projecting from the lower end thereof to hold the cutters apart.

On the opposite page are photographs respectively disclosing Types D, E and "Double Improved," held to infringe claims 9 and 19. With the exception of the so-called lug elements, formed at the lower ends of the respective bodies of said underreamers *by shearing away the side web of the extension*, said underreamers, so far as concerns any elements of said claims 9 and

19, are substantially identical with the underreamer body and extension disclosed in figure III of the prior Double Patent, No. 748,054. [R. p. 983.] As said by Judge Cushman:

“In the earlier Double devices there were secondary dovetails adjacent to the junction of the cutter head and shanks, with corresponding ways in the inner faces of the extension, forming the recess in which the cutter is mounted on the body. These added ways caused an outward flare at the mouth of the recess or pocket. As these were made deeper and the flare increased, a wider bearing would be given, and opportunity for a wider faced cutter to bear upon it; *but when defendant departed from this form of construction, and entirely sheared away the side web of the extension to form a lug, the bearing faces to accommodate the wider cutter head, he appropriated the invention and conception of Wilson and particularly of the patent in suit.*”

So far as concerns Types D, E and “Double Improved,” the *only change* made in the prior Double patented “*body and extension*” was, in the language of Judge Cushman, to shear “*away the side web of the extension to form a lug, the bearing faces to accommodate the wider cutter head.*”

The effect of such “*shearing away of the side web*” was merely to provide said *prior Double body and extension* with “lugs to hold the cutters apart” by means of the bearings on such lugs co-operating with the bearings on the cutter heads.

Therefore, in combining with or adding to such prior Double patented body and extension, said lugs to form

bearings co-operating with bearings on the cutter heads, defendant, according to Judge Cushman, appropriated Wilson's invention and infringed claims 9 and 19.

In so finding said claims infringed by Types D, E and "Double Improved," Judge Cushman necessarily construed said claims as covering the "prior patented Double body and extension" plus "lugs thereon for holding the cutters apart," notwithstanding the patentee Wilson endeavored to secure claims, *on their face*, of a corresponding breadth and scope, *but failed*.

The Wilson patent application, as originally filed, and as amended from time to time, contained a number of claims which, *on their face*, obviously covered just such a combination as the "prior patented Double body and extension" (as embodied in Types D, E and "Double Improved") plus *lugs thereon to hold the cutters apart*.

These broad claims were rejected and narrower claims, *limited to the Wilson specific form of body formation* plus said lugs, were substituted therefor.

A copy of the Wilson patent file wrapper appears in the record, commencing at page 1023 thereof.

Some of the claims in the Wilson application, as originally filed, read as follows:

"1. An underreamer having *projecting nugs at its mouth* for expanding cutters.

"2. An underreamer provided with upper and lower bearings for its expanded cutters, the lower bearing being formed of *lugs projecting at the mouth of the reamer*.

"3. An underreamer having cutter bearings for the downthrust and bearings for expanding the

cutters, the latter being formed of *projecting lugs at the mouth of the reamer.*

“11. An underreamer having lugs at the lower end of its body to hold the cutters apart.” [R. p. 1031.]

It is perfectly obvious that each of said claims 1 and 11 accurately and comprehensively cover the “feature” referred to by Judge Cushman as being covered by claims 9 and 19 and residing in the “lug faces” to afford “bearings for the cutters when in reaming position.” These claims cover said “feature broadly because they are not limited to the details of construction of any particular or specified underreamer body.

Said claims 1 and 11, not being limited to the details of construction of any particular or specified underreamer body, cover Types D, E and “Double Improved.”

However, said broad claims were rejected by the patent office. The reason for such rejection is obvious. In the opinion of the patent office, Wilson was not entitled to cover such “feature” broadly, but only in combination with a particular or specified type of underreamer body, to-wit, the Wilson body “terminating in prongs.”

Furthermore, the Wilson patent file wrapper shows that the patent office was unwilling to permit Wilson to cover said “feature” in combination with the “prior patented Double underreamer body,” which is embodied in each of said Types D, E and “Double Improved.”

Furthermore, the Wilson patent file wrapper shows that Wilson acquiesced in the patent office rulings and

specifically committed himself to an interpretation of his claims which excludes the combination of said "prior patented Double body and extension" with said "feature" residing in said *projecting lugs to hold the cutters apart*.

The plaintiff-appellee, under said rule of claim construction announced by this Honorable Court in the companion case, is estopped from insisting on a construction of claims 9 and 19 which accords them a scope sufficient to embrace said specific construction so relinquished by Wilson in order to secure his patent.

In order to secure an allowance of claims 1, 2 and 3, Wilson finally amended them so said "feature" of the projecting lugs forming intrust bearings for the cutters, was claimed only in combination with his specific type of underreamer body.

As so amended, in order to secure their allowance, each of said claims, in the patent, is limited to the combination of said "feature" with an underreamer body "*terminating in prongs*."

In order to clearly show that by said limitation "*terminating in prongs*," the prior patented Double underreamer body (which is embodied in Types D, E and "Double Improved") was *excluded* and *not to be included* within the scope of any claim so limited, the patentee Wilson presented to the patent office, by way of inducing the patent office to allow his claims, the following argument, which includes, in the language used by this court in the companion case, a "*surrender of scope and of definition of his claimed combination*."

It is to be noted that the said argument, about to be quoted, was made *after* Wilson had amended his original broad claims 1, 2 and 3 by limiting each of them to a body "*terminating in prongs,*" and after he had amended his original claim 4 so as to limit it to a body "*terminating in prongs forming a fork.*"

Wilson's said argument and "*surrender of scope and of definition of his claimed combination*" necessarily applies with equal force and effect to each and every claim, limited to a body "*terminating in prongs.*" Such argument and "*surrender*" read as follows:

"I request reconsideration and allowance of claim 4 for the reason that Double 748,054" (disclosing form of body in Types D, E and Double Improved) "does not show a cutter body terminating in prongs forming a fork. Upon the contrary, the Double body is provided with a web 6 on each side of which are recesses 4 and 5, there being a slot 7 through the web. The Double underreamer body of No. 748,054 clearly does not anticipate claim 4 which is limited to the 'body terminating in prongs forming a fork.'" [Transcript Record, p. 1047.]

Claims 9 and 19 are likewise each limited to a body "*terminating in prongs.*"

In view of Wilson's said "*surrender of scope and of definition of his claimed combination,*" can said claims be properly construed to cover that which Wilson *so specifically surrendered and excluded from the scope of his invention?* However, they must be so construed in order to have them cover Types D, E and "Double Improved," each of which embraces the *form of body*

disclosed in said Double patent No. 748,054 so specifically referred to by Wilson in his "*surrender of scope*" and each of which embraces said "*web 6 on each side of which are recesses 4 and 5, there being a slot 7 through the web.*"

Aside from the foregoing estoppel preventing claims 9 and 19 being properly construed to cover Types D, E and "Double Improved," said claims should not be construed to cover said types, because not one of them is the mechanical equivalent of either of the combinations respectively covered by said claims, nor does any of said types possess the numerous advantages inherent in the said combinations.

The following facts are true in respect to each of said Types D, E and "Double Improved":

1. Advantage of assemblage from bottom *not present.*
2. Advantage of remachining feature *not present.*
3. Advantage of close collapsion of cutters *not present.*
4. Advantage of having more stock in cutters *not present.*
5. Advantage of having maximum open space between cutters *not present.*
6. Advantage of use of solid tee *not present.*
7. Advantage of requiring nothing except prongs and cutters and upthrust on the body in all of the underreamer expanding, collapsing and working actions and strain resistances, *not present*, as web 6 essential to operativeness of Types D, E and "Double Improved."

All the foregoing advantages are inherent in the respective combinations of claims 9 and 19. The question naturally presents itself: When does the invention embodied in a claimed combination of elements cease to exist? In the construction of a claim, in reference to an alleged infringing device, what is to be deemed the "*vanishing point*" of the claimed invention?

In the present case, it is a simple matter to determine such "*vanishing point*."

The advantageous "feature" embraced in the projecting lugs to hold the cutters apart by means of bearing faces on the lugs co-operating with bearing faces on the cutter bodies, when in reaming position, was attempted to be covered broadly, that is, in combination with *any kind of an underreamer body*. Such attempt was made by Wilson when he inserted, in his application, claims I and II, reading as follows:

"I. An underreamer body having projecting lugs at its mouth for expanding cutters.

"II. An underreamer having lugs at the sides of the lower end of its body to hold the cutters apart."

The said claims were rejected. Wilson acquiesced in such rejection. Wilson thereby admitted and conceded that he was not entitled to claim, as his invention, the "feature" embraced in and the "*advantage*" inherent in the "*lugs projecting at the sides of the mouth of the underreamer body to hold the cutters apart*."

His "*surrender of scope*" of invention was specifically recorded by his amendment of claim I to limit it to a combination of said "*projecting lugs*" with his

specific form of underreamer body, to-wit, a "*body terminating in prongs.*"

In other words, Wilson, in response to the actions of the patent office and in order to secure and as a condition precedent to securing an allowance of his application, conceded and admitted and agreed that, so far as the "*feature,*" embracing said lugs with bearings thereon co-operating with bearings on the cutters to hold them apart, was concerned, his invention resided in combining said "*feature*" with his specific type of underreamer body, to-wit, "*one terminating in prongs,*" and that his invention did not reside in or include the combination of said "*feature*" with other types of underreamer bodies. The prior art compelled such a "*surrender of scope*" of invention.

The O'Donnell and Willard patent [R. p. 1004] discloses an underreamer body and lugs projecting at the sides of the mouth thereof and extending laterally on either side, *beyond the mouth opening.* Each of the two cutters in this patent has a head *wider than the mouth,* and on the cutter head is a *bearing, extending laterally, on either side, beyond the mouth opening,* and co-operating with the bearings on the lugs. Of course, there is only one continuous bearing, extending clear across the cutter head, and co-operating with the bearings on the lugs. However, there is only one such continuous bearing on each of the cutters in Types D, E and "Double Improved" and *not two separate, distinct* bearings respectively located on two shoulders of the cutter *as in the Wilson device.* Furthermore, the O'Donnell-Willard underreamer body

is not of the Wilson type "terminating in prongs." However, the respective bodies of Types D, E and "Double Improved" are not of such Wilson type, "terminating in prongs." In its decision in the companion case, this court has found that the O'Donnell-Willard underreamer was a successful device.

Wilson went even further in his surrender, concession and admission. He specifically stated and conceded that the "prior patented Double underreamer body" (as embraced in Types D, E and "Double Improved") was not a "body terminating in prongs" and, therefore, unqualifiedly excluded the same from his "*definition of his claimed invention.*"

In view of the foregoing, it is apparent that, in respect to any claim in the Wilson patent, including said "*feature*" in combination with the *Wilson type of underreamer body*, the Wilson invention, covered by said claim, ceases to exist when we construe out of or exclude from said claimed combination those elements constituting the Wilson type of underreamer body.

In other words, so far as concerns said "*feature*," the "*vanishing point*" of the Wilson invention is reached when we isolate or separate said "*feature*" from the Wilson underreamer "*body terminating in prongs.*"

Wilson admitted and conceded his invention resided in associating said "*feature*" with his *particular type* of underreamer body and that, when associated with *other types* of underreamer bodies, particularly said prior Double type of patent No. 748,054, he could lay no claim to it. The proof of such fact and "*surrender*

of scope” is in his *cancellation* of the claims attempting to cover such “*feature*” when combined with types of bodies, other than his own specific type, “*terminating in prongs.*”

We respectfully submit that, in finding claims 9 and 19 infringed by said Types D, E and “Double Improved,” this Honorable Court has overlooked Wilson’s said “*surrender of scope*” of his invention and has failed to apply the rule of claim construction, above referred to, and which is controlling in respect to the foregoing facts.

By a mere glance at said Types D, E and “Double Improved” it is apparent that not one of said types embodies a single advantage inherent in the Wilson combinations of claims 9 and 19, other than that inherent in the lugs projecting at the lower end of the body to hold the cutters apart.

If said claims be so construed as to cover an under-reamer body not of the Wilson type “*terminating in prongs,*” then said claims are necessarily given a scope commensurate with that of the claims cancelled by Wilson in order to secure his patent.

We respectfully submit that when said claims 9 and 19 are accorded a scope sufficient to cover Types D, E and “Double Improved,” they are being accorded a scope commensurate with that of such cancelled claims.

In the first suit, A 4, brought against the defendant-appellant, by election only claims 16 and 17 were charged to be infringed by said Types D and E and “*Double Improved.*” It will be noted said claims do not include, as an element thereof, Wil-

son's "*body terminating in prongs.*" Said two claims, and claim 6, are the only claims in the Wilson patent which do not include said "*body terminating in prongs.*"

The fact that, at the commencement of this litigation, none of said claims, limited to such specific type of body formation, were charged to be infringed, clearly indicates the views and opinions of the opposing party that defendant's devices did not embrace any such "*body terminating in prongs,*" and, therefore, none of said claims, so limited to such type of body, were infringed. It was only after Type F was put on the market that the other claims of the Wilson patent were charged to be infringed by it.

Seventeen out of the twenty claims of this Wilson patent are each, *on its face*, specifically limited to an underreamer body "*terminating in prongs.*" If said limitation is to be ignored in respect to any one of these claims and such claim held to cover an underreamer having a body *not "terminating in prongs,"* such as Type D or E or "*Double Improved,*" on what ground or under what rule of claim construction, or under what principle of law, should said "*limitation*" be respected or enforced in the construction of any of the other sixteen claims having such limitation expressed therein?

We respectfully submit that if such "*limitation*" be ignored in respect to any one of said seventeen claims, there is no logical reason for treating it as a "*limitation,*" *in fact*, in respect to any of the other sixteen claims, containing a like "*limitation.*"

The foregoing is merely suggested by way of questioning the correctness of any construction of claims 9 and 19 which accords them a scope entirely and completely inconsistent with such limitation contained in each of them, and which scope is necessary in order to enable them to cover Types D, E and “Double Improved.”

We respectfully submit that the court, in construing claims 9 and 19 to cover Types D, E and “Double Improved,” has failed to apply the said *controlling rule of claim construction* announced in the opinion rendered in the companion case 2996, and, therefore, a rehearing of this cause is respectfully prayed.

Claims 9 and 19 Clearly Limited by Their Plain Terms.

The District Court found that claims 9 and 19 of the Wilson patent have been infringed, not only by the “Type F” underreamer, but also by the “Double Improved” and Types D and E, and *bases this decree upon the bill of complaint in “B-62.”*

The infringement found by the District Court consists in “cutting away the side web to give the cutter greater bearing.” [Record p. 78.]

Claims 9 and 19 which alone are now before this court read as follows:

“9. An underreamer body terminating in prongs forming a fork and provided with shoulders on the inner forks of the prongs which form cutter-ways and terminate in downwardly projecting lugs, and cutters mounted between the

prongs of said fork and having shoulders inside the fork and faces to bear on the projecting lugs.

“19. An underreamer comprising a body terminating in two prongs and cutters each having two shoulders, and the bearing face on the inner side of each of the two shoulders to engage said prongs.”

It is no less than astonishing that the District Court should have undertaken to expand and enlarge the plain and unambiguous language of claims 9 and 19, so as to create an entirely new and independent element of discovery not found nor attempted to be expressed in either of these claims.

Simple Analysis.

Each of these claims its right to patent solely upon the *combination* therein described.

The combination in claim 9 is made up of:

(a) An underreamer body terminating in prongs forming a fork;

(b) And provided with shoulders on the inner faces of the prongs which form cutter-ways and terminate in downwardly projecting lugs;

(c) And cutters mounted between the prongs of said fork and having shoulders inside the fork and faces to bear on the projecting lugs.

Unless all of these three elements are found the combination amounts to nothing, because the constituent parts separated from their inter-relation are not claimed as either new or novel. They were old, separately considered, and the fact that they are claimed in

combination admits in law that each of the separate parts are old.

What is there that requires judicial interpretation or construction in claim 9?

It is admitted, and indeed was urged by appellee Wilson both to the patent office and in the court below, that the Double type of underreamer does not terminate in prongs forming a fork, and it was upon Mr. Wilson's representations to the Patent Office that the Double reamer did not terminate in prongs forming a fork that these claims were allowed.

This is distinctly asserted by Mr. Wilson as the characteristic point of difference between his invention and that of Double's and appears in his arguments to the patent office itself. [Record p. 1047.]

Since there are no prongs it cannot be claimed that the Double underreamer is provided with shoulders on the inner faces of the prongs or that such shoulders or prongs have "formed cutter ways" or "terminate in downwardly projecting lugs," but decidedly it is not claimed that any Double underreamer has "cutters mounted *between the prongs* of said fork" or "having shoulders *inside the fork and faces to bear on the projecting lugs.*"

It requires nothing whatever more than a bare reading of this claim 9 to show wherein it differs in every respect in "mode of operation" from any said types of the Double reamer.

Claim 19: If claim 9 is clear and explicit and if the combination which alone is therein claimed to be novel has not been infringed by what process of

artificial interpretation can claim 19 be said to have been infringed by any Double reamer.

ANALYSIS: Claim 19 describes but a *combination*. It must be an “underreamer” comprising

(a) A body terminating in *two* prongs;

(b) And cutters each having *two* shoulders and a bearing face on the inner side of each of the two shoulders to engage said prongs.”

The prongs are thereby described as being necessarily separated because there are *two* of them, and each of the two cutters must have *two separate* shoulders, and there must be a *bearing face* on the *inner side* of each of these *two* separate shoulders “*to engage the prongs.*”

By the greatest stretch of the imagination and applying the language here used to the Wilson reamer and the sketches furnished, and the language employed in the remaining parts of the patent and especially to the “mode of operation” without which this language cannot be properly understood, we have the proposition that two prongs as here used can have no legitimate meaning except the same kind of prongs and prongs performing the same functions *in combination* as are shown in the Wilson type of reamer.

The word “prongs” is not occult, nor a word that can be made to have a fast or loose meaning according to the varying whims of the inventor. It cannot mean one thing at the time of the invention and for six or eight years thereafter, and take on a new meaning to accommodate the stress of a law suit. The Wilson pronged reamer, instead of having a *continuous* bear-

ing for its cutters, has its cutters swung between the prongs and this claim distinctly asserts that the cutters rest upon the *two separated bearings*, whereas the Double reamer has a *continuous bearing across the entire inner face* and upon which its cutters rest. Thus one is a *pronged* structure and the other is a continuous or non-prong structure, and any holding by the District Court to the contrary is a creation by the court of a new element not found in the patent and a flying in the face of known and positive mechanical differences.

III.

That This Court Has Fallen Into a Misapprehension as to the Issues Raised by the Pleadings in the Two Cases A4 and B62.

Claims 16 and 17 in case "A-4," and "Type F" only in case "B-62" were before the District Court. There was an obvious mistrial by the District Court of the issues presented by the pleadings and the record in the consolidated cases "A-4" and "B-62."

A bare statement of the bare facts should suffice to demonstrate this situation.

The District Court ordered a decree for defendant in A-4. [Record p. 69.] The injunction appealed was ordered under suit B-62. [Record p. 79.]

The record shows that for years prior to the beginning of suit "A-4" Wilson and his attorney were entirely familiar with all the details of each and all of the Double reamers, saving only "Type F," which had not then been designed.

With this technical and actual knowledge, case "A-4" was begun in February, 1913. In a formal way it was charged that the several Double reamers manufactured by Union Tool Company infringed each and all of the 20 claims of the Wilson patent.

In March, 1913, plaintiff's attorney deliberately and for the purpose of intentionally narrowing the controversy and the evidence which he would be required to produce, announced upon the record that Wilson elected to stand upon claims 16 and 17 and no others. [Record p. 121.] This election, so made with full knowledge of all of the facts, is not only persuasive evidence that neither Wilson nor his able attorney had the slightest notion that claims 9 and 19 could be tortured into covering what the District Court expanded them to cover,—but it was sufficient warrant for Union Tool Company to continue with absolute immunity to manufacture and sell its existing types of reamers in reliance upon such election and admission, and without any liability to account for the same otherwise than with reference to claims 16 and 17, which related to the cutters only.

About November, 1914 (when complainant's *prima facie* case was nearly closed), Wilson learned that some time in 1914 Union Tool Company had brought out its "Type F" reamer, which Wilson claimed infringed not only claims 16 and 17, but various other claims of his patent.

The discovery that the new "Type F" Double reamer had been placed on the market was the sole and only reason or excuse for the new case—"B-62." Much

illumination is found in the record upon this subject. If Wilson desired so to do he could have filed a supplemental bill in "A-4" for matter which arose after his election. This he feared to do, because, if he failed to establish the infringement of claims 16 and 17, then his supplemental bill would also fail because it could not stand alone and independently of the valid, original claim. To remedy this, he finally determined to begin a new action as "B-62" for no other purpose whatever than to perform the same function as would a supplemental bill, and charge the infringement resulting from the new "Type F" Double reamer,—without in any wise retreating from or modifying his election made in March, 1913, to stand upon claims 16 and 17 as to all then existing types.

It is fairly obvious and elemental that, having begun his action "A-4," originally covering and charging infringement of each and all of the 20 claims of the Wilson patent, he could not split that action by beginning a new action against the same party in the same court and relating to the same patent and the same types of reamer which he had charged in the original action to infringe his patent. The only remedy, *if he changed his mind*, would have been to take steps to relieve himself upon the record of his election in "A-4." It is absolutely certain that he could not confirm this election in "A-4," and then in effect avoid it by beginning "B-62" and so phrasing his bill of complaint as to cover not only the new "Type F," but also to reassert each and all of the items of infringement which he had abandoned in case "A-4."

But Wilson made no effort in the beginning of "B-62" to dodge his election, but, on the contrary, confirmed it, and the record clearly shows that his only claim and purpose in "B-62" related to the "Type F" Double reamer.

His original bill of complaint in "B-62" was so drawn as to be almost identical with that in "A-4," notwithstanding his declaration upon the record that he was intending to cover the "Type F" form only.

Thus two suits practically identical in form were attempted to be planted in the same court between the same parties and relating to the same matter.

A motion to dismiss was filed by Union Tool Company. The attorney for Wilson, to meet this motion, filed an amendment in "B-62" and expressly stated to the court in that connection [Record p. 513]:

"An original bill has been filed alleging infringement of certain claims of the patent in suit, other than the claims involved in the election charging infringement in this case ('A-4'). It is the present purpose of complainant to move this Honorable Court for an order consolidating the suit thus filed, involving this patent subsequent to the present suit, with the present suit, upon a showing that the issue of such subsequent suit involves exhibit Plaintiff's Exhibit Reamer Type 'F' in this present or first brought suit, and in order that, as to such exhibit, the issues of infringement under the patent in suit may be broadened out in the respects of such further bill. *We have attempted to dodge the election made in this case.*"

This is a plain, straight-forward statement of the situation and was followed by an amendment which in the very amended bill itself in "B-62" asserts as the reason for this amended bill the election to stand upon claims 16 and 17 of this patent in suit "A-4,"—which election would not, of course, apply to a newly constructed device which constituted an infringement after the making of such election. Thus the effect of the election is not only found in the record, but is embalmed in the very pleadings themselves.

Under date of December 19th, 1914, before "B-62" was begun, we find Mr. Blakeslee declaring [Record pp. 437-438]:

"The complainant finds it necessary, in order to make out a full case of infringement against the defendant to take proper steps to depart from the election heretofore made as above recited. *That election we are prepared to stand by with respect to the alleged infringing structures other than Complainant's Exhibit Defendant's Reamer Type F.'*"

There is much discussion following and it is specifically stated over and over again that "B-62" was to bring "Type F" reamer before the court and not to dodge the election as to reamers existing at the beginning of "A-4."

Expressly basing the application upon the record thus made, in "A-4," a consolidation of these two cases was had and the cases were tried and pleadings were in no wise changed or attempted to be changed, and there never was any attempt by the complainant to obtain

relief from the election so made and repeatedly confirmed and carried into the pleadings.

On July 23rd, 1915, Mr. Blakeslee, in the taking of testimony and without in any wise referring to his election in "A-4," stated:

"Complainant gives notice to the defendant at this time that *alternative to any disposition* which may be made of equity suit No. 'B-62,' consolidated by the order of the court with equity suit No. 'A-4,' consolidated, in which these proceedings are being conducted, namely, any disposition which may be made of said equity suit No. 'B-62' at the final hearing of this case with respect to such consolidation of said two cases, complainant at such final hearing will rely upon claims Nos. 2, 4, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, and 19 of the Wilson patent in suit herein. This notice of alternative attitude or position is given at this time in order that defendant may be apprised in the premises before commencing the taking of its proofs." [Record page 541.]

(Note. This statement is erroneously quoted in Judge Cushman's opinion, pages 81-82 of the Record.)

This notice relates to "B-62" and nothing else. Indeed, it is in no wise intended to withdraw the election made in "A-4" and so never was construed by the District Court, and surely it would not lie in the mouth of Mr. Blakeslee to create new and different issues as to any other types except "Type F" in "B-62" by a mere statement of this character. There is no word in this statement indicating that the declar-

ation found on page 513 of the record that “B-62” relates to “Type F” only and the declaration found on page 517 of the record to the same effect were in any wise intended to be withdrawn and if it were attempted by this method to run into “B-62” all of the other types of reamers, that fact would naturally have been expressed.

What does Mr. Blakeslee mean by the words “alternative to any disposition” or “this notice of *alternative attitude*”?

It seems to us that, inasmuch as he does not refer at all to his election or to the types of reamers, he must have had in mind the fact that Judge Bledsoe reserved to the defendant the right to again raise the point of consolidation of the cases after the testimony had been all taken and that Blakeslee was giving notice that, in determining that question, he expected in “B-62” to rely upon the several claims as indicated, for he says:

“Alternative to any disposition—which may be made of said equity suit No. ‘B-62’ *at the final hearing of this case with respect to such consolidation of such two cases.*”

In other words, that if the cases should not be finally consolidated, then he expected that as to the “Type F” reamer, particularly charged in “B-62,” he would rely upon each and all of the claims of infringement mentioned, and all of the testimony which had been taken in the consolidated cases should be so considered in determining finally what should be done on the subject of consolidation if the matter should again be brought up by the defendant. If this statement does not refer

to this matter it is absolutely blind and without point, and, in any event, it cannot vary the issues in either of the cases.

Since the consolidation was had on the faith of the pleadings and record in "A-4," it would have been a fraud upon the court if "B-62" under the amended bill of complaint was intended to "dodge the election" referred to in the amended bill itself by covering not only "Type F," as declared by Wilson's attorney, but by splitting the claims as to the types existing when action "A-4" began and re-asserting a part only of these claims in case "B-62." No such fraud was intended in our judgment, and the record does not disclose any such purpose,—but this is true because the purpose actually disclosed was to stand by the election made in "A-4" as to all types of reamers existing at the beginning of "A-4" and to begin "B-62" to cover "Type F" only. That was the state of the pleadings February 8, 1915. *The consolidation created no new issues. The pleadings were not changed thereafter.*

The District Court held that "A-4" covered and was restricted to claims 16 and 17, but erroneously held that "B-62" not only covered "Type F," but also all the other Double reamers which formed the cause of action in "A-4," and thus in effect held that in the beginning of "B-62" an effective fraud had been perpetrated upon Judge Bledsoe in making "B-62" "*dodge the election*" and relate to each and all of the types of reamers referred to in case "A-4" as well as to "Type F," which Judge Bledsoe was solemnly assured was the only type covered or attempted to be covered in case

“B-62.” We submit that if Wilson desired to avoid his election in “A-4” he could not do it by beginning a new action as to a portion of the claims therein originally referred to and that therefore the court cannot “*dodge this election*” for him by doing for him what he could not do himself and what he has in no wise asked the court to do.

The result of this situation is that upon the pleadings and the record in “A-4,” the case covered the Double underreamers existing at the time “A-4” was begun, and that, although the original bill of complaint charges infringement of all 20 claims, complainant elected to stand upon claims 16 and 17 only, and the case was tried upon those issues and the complainant was defeated, thus disposing of all of the issues that were ever before the court in “A-4.” In “B-62” there was no excuse for the case whatever except that the election which was expressly reaffirmed in the pleading in “B-62” did not apply to “Type F,” and they desired to litigate out the subsequent infringement claimed on account of “Type F” as to all claims except 16 and 17; which were already covered in “A-4.” Thus “Type F” only could possibly be involved in “B-62,” and, since the District Court found against the complainant as to all claims except 9 and 19 in “B-62,” this appeal presents to the District Court nothing whatever except claims 9 and 19 under the pleadings in “B-62” and relating to no other types of reamers than the “Type F” reamer which alone could be the subject of litigation in case “B-62.”

The “Double Improved” and Type D and E reamers were not before the court except as charged in “A-4” to infringe claims 16 and 17, and the decree has no foundation on which it can be supported.

SUMMARY.

First: The plain state of the pleadings as well as the record limited the inquiry of the District Court

(a) To claims 16 and 17 under the bill of complaint in case “A-4”.

(b) To the “Type F” underreamer, under amended bill of complaint in case “B-62”.

The District Court, missing the true point here involved, erroneously expanded “B-62” beyond the issues therein tendered by the amended bill.

This court has, we submit, failed to examine or really to pass upon this question. The controlling factors thereof are ignored.

There has therefore been a mistrial (or no trial) upon this pivotal point.

Second: If the amended bill of complaint in case “B-62”—construed in the light of the record—presents any claimed infringement, excepting only the alleged *new* cause of action arising because “Type F” was brought out long after case No. “A-4” was begun—*then the District Court manifestly erred in not sustaining the motion to dismiss because another action was pending covering the same subject matter, the same patent and between the same parties and in the same court.*

IV.

This Court Has Found the Double and Wilson Reamers Different in Principle and Operation and Non-Equivalent and One Cannot Infringe Upon the Other.

In the opinion of this court in the companion case, No. 2996, Wilson & Willard Mfg. Co. v. Union Tool Co., this court compares the Double reamer with the Wilson reamer and says (page 6):

“The devices operate upon different principles and under different modes of operation.”

The Double reamers, Types “D,” “E,” and “Double Improved” have identically the same principle and the same mode of operation as the Double reamer thus referred to by this court. If this court be correct in this finding it follows infringement cannot be found in this case.

As said by this court in Riverside Hts. O. G. Ass’n. v. Stebler, 240 Fed. 703, at page 709:

“But there is a further rule also applicable to this question, and that is:

“‘If the device of the respondents shows a substantially different mode of operation, even though the result of the operation of the machine remains the same, infringement is avoided.’ Cimiotti Unhairing Co. v. American Fur. Ref. Co., 198 U. S. 399.”

The lower court, in case No. 2996, held the principles and mode of operation of the Double and Wilson reamers to be substantially the same. Deducing from this finding a similarity of principle and of mode of operation in the two reamers, the Double and the Wilson, the District Court then found infringement of the Wilson patent. This court, having reversed this finding of the lower court, cannot consistently hold that the principles and modes of operation of the Wilson and Double reamers are both the same and different. It is respectfully submitted that the findings in these two cases should be consistent as to the mechanical structures referred to.

In the decision in case No. 2996, the court refers to the shoulders on the prongs of the Wilson reamers and contrasts or compares these with the upwardly and inwardly tapered dove-tails on the open slipways of the Double reamers and says that they are not the same in principle or in operation. The attention of the court is particularly directed to its opinion in case No. 2996, in which it points out, on pages 6 to 10, that the provision of the pronged or open mouthed body and the straight shoulders give the Wilson reamer a distinct principle of action and mode of operation not comparable to the Double, and not the mechanical equivalent of the Double. Clearly, that which is old prior to the Wilson invention (i. e., the Double principle and mode of operation) cannot now be the mechanical equivalent of the Wilson. "Double Improved," Types

“D” and “E” reamers retain absolutely “opposite parallel bearing faces on the downward extension” referred to by the court in its opinion in case No. 2996, page 9, as not the equivalent of the inclined bearing faces on the prongs of the Wilson reamer. The court points out the mechanical differences in principle and mode of operation in the collapse and expansion and says that in none of these features are the two reamers equivalents. It is respectfully submitted that under these circumstances the Double reamer cannot infringe the Wilson patent.

In the opinion in this case Your Honors have considered this suit as though before Your Honors upon an appeal by the appellee from that portion of the decree of the District Court which dismissed suit “A-4” and the major part of suit “B-62,” and have considered only “Type F” reamer whereas this appeal is only before the court on appellant’s appeal from the award of the injunction and the substantial merits are the “Double Improved” and Types “D” and “E” reamers.

The confusion, which will result from such lack of decision, is emphasized by appellee’s motion to explain the opinion of the court, and by reference to the controversy now pending in this court in the Minerals Separation or flotation process case. The substantial reason for a clear and definite decision *of the issues by appellant’s appeal* is thus made apparent, to the end that further continued litigation between the parties be not rendered necessary to ascertain the rights of the

parties and the meaning of the court's opinion and to ascertain the scope given to the claims 9 and 19 under consideration on this appeal. To leave the case as it stands on the opinion filed is simply to compel further litigation.

For each of the foregoing reasons it is submitted a rehearing should be granted.

A. V. ANDREWS,
WILLIAM K. WHITE,
FREDERICK S. LYON,
Of Counsel for Appellant.

No. 2918.6

United States
Circuit Court of Appeals,
FOR THE NINTH CIRCUIT.

Union Tool Company,	} <i>Appellant,</i>
<i>vs.</i>	
Elihu C. Wilson,	} <i>Appellee.</i>

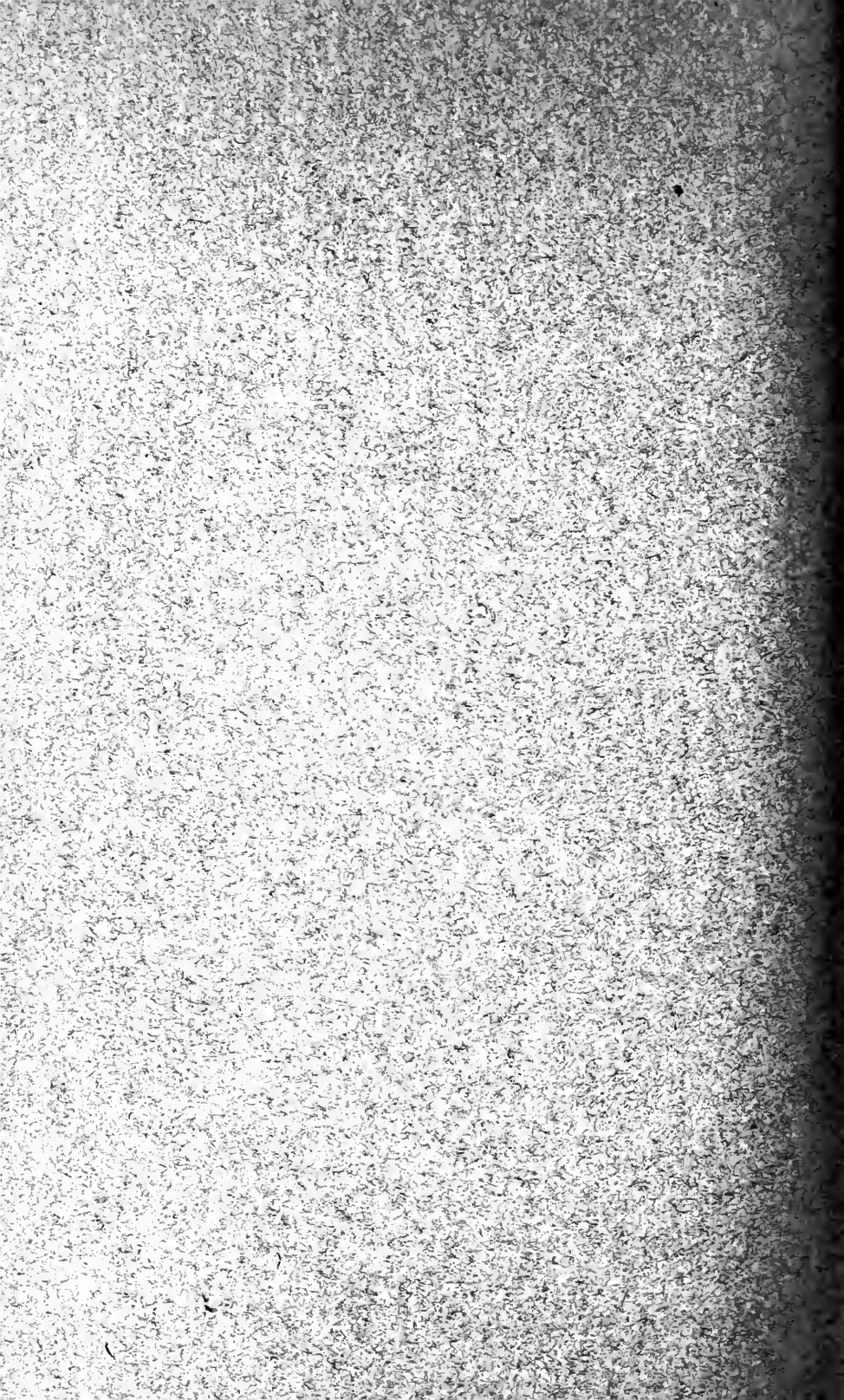
Appellee's Answer to Petition for Rehearing.

RAYMOND IVES BLAKESLEE,
Solicitor for Appellee.

FILED

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F. D. MORGAN, CLERK



No. 2918.

United States

Circuit Court of Appeals,

FOR THE NINTH CIRCUIT.

Union Tool Company,

Appellant,

vs.

Elihu C. Wilson,

Appellee.

Appellee's Answer to Petition for Rehearing.

Before taking up the consideration of the several points urged by the appellant in its petition for rehearing, we desire to direct the serious attention of this court to the fact that several of the references contained in said petition are grievously misquoted. We would be glad to believe that this is accidental and merely due to the haste with which the petition was doubtless prepared, but the fact that in the companion case, No. 2996, Your Honors were obliged to return the opposing counsel's (Mr. Lyon's) briefs for correction before they could be considered, points strongly to the suspicion that these errors are not accidental.

As an instance we will point to page 32 of the petition in which the citation from page 513 of the record is quoted. Besides other errors the last three lines are made to read as follows:

“We have attempted to dodge the election made in this case.”

This statement is again quoted in italics on pages 36 and 37, so there can be no doubt that opposing counsel make vigorous use of the sentence in the form they give it.

Now, if Your Honors will refer to the record as cited by opposing counsel, and right where they themselves obtained this sentence, you will find that it reads as follows:

“We have NOT attempted to dodge the election made in this case, nor do we intend that the defendant shall dodge the further questions of infringement presented in and by Complainant’s Exhibit Reamer Type ‘F,’ and for that reason we have filed the further bill mentioned.” [Record pp. 513 and 514.]

It is difficult to believe that opposing counsel would fail to carefully compare a quotation upon which they build several pages of argument. It is also difficult to believe that accidental errors in quotations in this petition should always distort the import of the statement in question in favor of the opposing counsels’ case. This was true of numerous similar instances in the briefs in the case No. 2996 above referred to.

The quotation on page 33 of the petition is entirely different from the original statement to be found on page 438 of the record. The quotation should be pre-

ceded by asterisks in order to show that it begins at the middle of a sentence with, in this instance, an important qualifying phrase omitted. Also the quotation is divided into two sentences by a period where no such sense is given to it in the original.

These misquotations and the long argument that was adduced, by opposing counsel, from the new sentence they had created, were used to show that Your Honors had “fallen into a misapprehension as to the issues raised by the pleadings in the case A-4-B-62.”

Again the opposing counsel predicate a long argument on the construction to be given to claims 9 and 19 on pages 25 and 26 of the petition and misquote said claims so as to seriously distort their meaning. In the third line of the quoted claims at the bottom of page 25 it will be found to read “On the inner FORKS of the prongs” instead of “On the inner FACES of the prongs.”

Claim 19 is misquoted on page 26 of the petition in line 3 and following. It is made to read “And THE bearing-face” instead of “And A bearing-face.” This error, together with the addition and omission of commas to wrongly set off the modifying phrases, makes it possible to derive an entirely erroneous understanding of the meaning of the claim.

Judge Cushman’s statements on pages 11 and 14 will be found to be misquoted, and the statement from the opinion of this court in case No. 2996, quoted on page 9 of the petition, is wrongly punctuated and misquoted. While the mistakes in these last three quotations do not seem to be such as would materially affect

their meaning, they are, nevertheless, inexcusable and seem to be intended to give the impression that the other misquotations, upon which arguments are built, are also accidental.

However, the most flagrant instance of misrepresentation in this petition is one which cannot be accidental. We refer to the pretended illustration of the Double improved body or mandrel opposite page 12. At the time we received this petition we called the attention of opposing counsel and the court to the fact that this drawing was deceptive and did not represent the elements of the underreamer it purported to illustrate. At the same time this misrepresentation was called to the attention of Your Honors through His Honor, Judge Hunt, in chambers, and instructions were then given, by him, to opposing counsel, to correct this drawing before the petition was submitted. *This has not been done.*

In this illustration of petitioner the true size of the lug element of this improved reamer is misrepresented. The illustrations of Types "D" and "E" on the same page are photographs of the respective reamers placed in such a position as will plainly show this lug element, which has been formed by shearing away the web or side of the original Double device so as to form the lug elements, or at least, by adding the lug elements. But the illustration of the Double improved body is made up so as to conceal the form and size of this lug element, which is identical with that plainly illustrated in the Types "D" and "E" of the petition. The only difference in these bodies is that the "Improved Type"



has the web sheared away so as to form an acute angle with the lug element while this is a right angle in the Types "D" and "E." In both instances the object was to make room for and provide bearings for the shoulders of the cutter-head when Double abandoned his "slips" and made a cutter with a shank and a broad cutter-head which this court has held to be an invention of Wilson.

We challenge the opposing counsel to show why they did not illustrate the "Double Improved Body" by photograph, as they did the Wilson body on the same page. Such a photograph would be easily obtained in view of the statement in this petition that they have made 4,900 underreamers of this type. (Page 7.) Yet instead of such a photograph, which would faithfully represent the actual machine, they choose to submit this incorrect drawing. In order that this device may be properly represented in this argument, we are including in this reply an actual photograph of the Double improved underreamer body. In order to show its convincing resemblance to the Double Type "D" we have had it photographed in the same position opposing counsel have used in their illustration of said Type "D." Your Honors will note that the Double improved body, which is the subject of this photograph and which was selected at random, has been used in underreaming. The photograph plainly shows, not only that broad cutter-heads were used with this body, but the wear of these broad cutter-heads will be seen to extend almost the full width of the lug elements. We have, therefore, in the Double improved device,

the broad cutter-head and shanked cutter and the extreme width of bearing of said cutter-head on the lug element of the reamer body. *These infringed features are the substance of the Wilson invention, as has been found by this court.*

In addition, we likewise include a true photographic reproduction of the cuts on page 19 of the catalogue of appellant, which truly discloses the "Double Improved" reamer. This clearly shows the patented Wilson lug element at the lower end of the reamer body which serves as a spreading bearing for the cutters, which cutters, as seen, are provided with the broad cutter-head having lateral shoulders to co-act with said lug element, said cutters also having the shanks which were novel with Wilson. Why wasn't appellant honest enough to place before Your Honors this true picture of the "Double Improved" reamer, which it had on hand in its own catalogue, instead of producing a deceptive picture?

Also whether they used a photograph or a drawing to illustrate the Double improved reamer, why did they not show this type of underreamer in the same position as they illustrated Types "D" and "E"? *The reason is perfectly obvious.* According to their statement, on page 7 of the petition, they made only a few of the reamers of the Types "D" and "E" but they are threatened by a serious measure of damages and accounting for profits because of the extensive infringement of the Wilson underreamer by this "Double Improved" type. This deceptive drawing of the "Improved Type" is intended to mislead Your Honors into

DOUBLE IMPROVED UNDER REAMER

PATENTED



U-164

Showing cutters collapsed ready for Pipe



U-165

Bottom View

Showing Massiveness in Construction

To set, screw eye bolt in key carrying mandrel; pull down until cutters collapse below the end of spreading bar, then place setting ring on riders of cutters, which holds same in a collapsed position, after which the eye bolt is removed. Lower into pipe, taking ring off when ring comes to the first wrench square. After passing through the pipe the cutters automatically expand to working position.



U-166

Showing ease and simplicity of setting for entering pipe

DOUBLE IMPROVED UNDER REAMER



the idea that the "Double Improved" type did not embody these features of the Wilson invention which are admitted in the illustrations of Types "D" and "E."

We are not alarmed by these misrepresentations on the part of the opposing counsel, as we realize that the able opinion Your Honors have rendered in this case is most convincing that you have studied the machines themselves, which are among the exhibits in this case, and are thoroughly acquainted with their construction and operation. We do, however, resent opposing counsels' methods, which we have found it necessary to point out to Your Honors on a former occasion, and with which we have been confronted throughout this litigation. We trust this petition for rehearing will be returned for correction before it becomes a part of the record in this case.

We do not believe that this court wishes us to reply in detail to the points mentioned in the petition for rehearing. The petition is intended to raise a discussion on all the issues in this case and all of which Your Honors have disposed of after mature consideration. We will impose upon the time and patience of this court to refer to only a few of the statements in said petition.

On pages 4 and 5 of the petition the foundation of a large portion of the argument for a rehearing is laid by statements intended to convey the impression that Wilson's underreamer was only an improvement on the original type of Double device, but "the resultant mode of operation was in part the same or the mechanical equivalent of Double's reamer." These

questions have been fully discussed and disposed of in the companion case, No. 2996, recently decided by this court.

The petition contains long arguments intended to show that Double invented an underreamer body and that Wilson took that body and added “prongs” or “forks” to it. As a corollary the petitioner argues that Double should be permitted to take the body he invented and add “lugs” to it. Here is an example of using words only instead of referring to the things themselves and learning what they are in the light of what they do and the operations they perform.

Reference to the exhibits in this case will show that when a Double underreamer body has lugs added to it, it is no longer a Double underreamer body but a Wilson underreamer body, because these lugs are intended to, and they are essential to, adapting that reamer body to a cutter with a shank and a broad cutter-head. These are the invention of Wilson and are features of his underreamer. An underreamer cannot be successful without them and Double and his Union Tool Company, the appellant, appropriated these features from the Wilson invention because the public would accept no substitute therefor.

These features are covered fully by *combination* claims 9 and 19 of the patent in suit (Wilson underreamer) and we do not believe it necessary to take up the detailed discussion of this matter contained in the petition. The petitioner-appellant admits that these features of claims 9 and 19 are present in the infringing devices in the following words:

“On the opposite page are photographs respectively disclosing Types D, E and ‘Double Improved,’ held to infringe claims 9 and 19. *With the exception of the so-called lug elements, formed at the lower ends of the respective bodies of said underreamers by shearing away the side web of the extension,* said underreamers, so far as concerns any elements of said claims 9 and 19, are substantially identical with the underreamer body and extension disclosed in figure III of the prior Double patent, No. 748,054.” (Page 13.)

Again on page 23:

“By a mere glance at said Types D, E and ‘Double Improved’ it is apparent that not one of said types embodies a single advantage inherent in the Wilson combinations of claims 9 and 19, *other than that inherent in the lugs projecting at the lower end of the body to hold the cutters apart.*” (The italics are ours.)

The petitioner does not state that these same features are included in the Type “F” underreamer which he intimates was so different from the “Improved” and Types “D” and “E” that only the former should have been held to have infringed the Wilson patent. If this were so, is it not strange that this difference was not indicated by a photograph of the Type “F” reamer in this petition when the appellant resorts to a drawing which is specially constructed in order to disguise in the “Improved” reamer the features he is willing to show in the Types “D” and “E”? The facts will be plain to Your Honors on inspection of the exhibits in this case. The features of the Wilson inven-

tion, which are essential to a satisfactory underreamer, will be found in every Double design of an underreamer made since the original Double device was driven from the field and rendered obsolete by the Wilson underreamer. Is it not convincing that while Double has been making all these imitations of the Wilson reamer, that the Wilson reamer is the same today as it was when first conceived by Wilson? It was the final step in the art and Wilson took that step.

On page 19 of the petition will be found a statement of some of the other advantages of this Wilson device which the petitioner claims he has not yet been able to incorporate into his infringements except in Type F. It is not essential to sustain a charge of infringement that the infringer make the identical machine. Most valuable patents could be evaded by omitting some essential feature of the device imitated, if this were the rule. Your Honors have truly said in the opinion in this case:

“The fact that the appellant has not used each attribute of the Wilson invention can not excuse it from being held to infringement.”

The appellant admits in his petition, in the citations above quoted, that he uses the lug elements of the Wilson invention. These are so important in an underreamer, permitting as they do the use of the Wilson cutters with shanks and broad heads, which in turn eliminated nearly all the evils of the earlier devices, that we cannot conceive of their use without including with them the train of elements and mode of operation which they were designed to permit of and perform.

A study of these infringing devices of the appellant will show that every one of them does use these features which comprise the substance of the Wilson invention. In fact, it could not have obtained these advantages acquired by its infringement had it not used such train of elements and mode of operation.

The appellant calls attention to the decision of this court wherein it was declared that the Wilson underreamer was not an infringement of the *original Double device*, and argues that, because the original Double device was not the same as the Wilson underreamer, therefore the other types of Double devices do not infringe the Wilson underreamer patent. This argument will be found on page 39 and following of the petition, and is too illogical to deserve further comment.

On page 39 of the petition is the following statement:

“The Double reamers, Types ‘D,’ ‘E’ and ‘Double Improved,’ have identically the same principle and the same mode of operation as the Double reamer thus referred to by this court.” (Meaning the original Double device.)

If this is true it remains for the appellant to explain why it does not revert to the manufacture of the long discredited and obsolete original Double underreamer.

The broad Wilson combination claims found infringed herein are, as to the lug elements, not limited to any inclination or angularity of their bearing faces; and the mode of operation including the holding apart of the cutters by co-engagement of their lateral shoulders with these lug elements is not dependent upon any

particular inclination or augularity. Differences in specific mode of expansion and collapsion, existing between the Wilson and Double reamers, cannot, therefore, avoid a finding of infringement.

The latter portion of the petition is a long discussion of the consolidation of the cases A-4 and B-62. This has been passed upon several times, and finally by Your Honors. We feel that it is unnecessary to re-argue this matter here. We are fully in accord with the decision rendered by this court in this matter and, as a reply to the argument in this regard in the petition of appellant, we will only refer this court especially to the treatment of this matter by Frederick S. Duncan, Esq., of the New York bar, and which is printed in full at pages 238 to 258, inclusive, of appellee's opening brief in the case at bar.

We have faithfully examined this petition for rehearing and we find in it nothing that has not been fully argued before, and considered, by this court. It merely raises for discussion the merits of the whole case, and surely the appellant cannot claim that ample opportunity has not been afforded it to place all its facts and points before this court at the proper time. As a reply to any other points we will merely refer this court to our former briefs which, we are confident, made our case clear to Your Honors.

Respectfully submitted,

RAYMOND IVES BLAKESLEE,

Solicitor for Appellee.

No. 2918.

United States
Circuit Court of Appeals,
FOR THE NINTH CIRCUIT.

Union Tool Company,	} <i>Appellant,</i>
<i>vs.</i>	
Elihu C. Wilson,	} <i>Appellee.</i>

Appellant's Answer to Appellee's Answer to Petition for Rehearing.

WILLIAM K. WHITE,
Solicitor and Counsel for Appellant.

FREDERICK S. LYON,
Solicitor and Counsel for Appellant.

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No. 2918.

United States
Circuit Court of Appeals,
FOR THE NINTH CIRCUIT.

Union Tool Company,

Appellant,

vs.

Elihu C. Wilson,

Appellee.

Appellant's Answer to Appellee's Answer to Petition for Rehearing.

Preliminarily, we desire to express our regret that any errors should be found in the text of our Petition for Rehearing and to extend to this Honorable Court our profoundest apology therefor. However, we shall show herein that said errors cannot, by any possible stretch of the imagination, be tortured into having any significance so far as concerns our argument.

In fact, the most serious error (to-wit: the omission of the word "not" in the quotation on page 32 of the Petition) is absolutely destructive of the entire following argument on the question of "election." In other

words, our argument on such question is based on the contention that opposing counsel did “*not*” attempt to dodge such election and that he never did dodge such election, and that, therefore, the lower court was not justified in ignoring his said “election,” from which opposing counsel never sought to be relieved.

The criticisms of opposing counsel will be discussed under the following heads, to-wit:

1. The cut of the Double improved underreamer body on the insert opposite page 13 of the Petition is a correct and accurate illustration of the Double underreamer body in evidence and such cut is a reproduction of the cut appearing on page 18 of the same catalogue from which opposing counsel secured the cut appearing opposite page 8 of his answer to the Petition. Said catalogue will be filed herewith.

2. The photograph appearing opposite page 7 of opposing counsel’s answer to the Petition is a photograph of an underreamer body so worn or deliberately broken as to give it the appearance of having a forked body, and this use of such photograph is an attempt to deceive this Honorable Court.

3. The errors in the text of the Petition are of no significance, but due to inadvertence and oversight.

Furthermore, Judge Cushman’s opinion, as set forth in the record, has now been found to differ from that appearing in the Federal Reporter, in regard to punctuation, paragraphing and spelling.

I.

The argument, in the Petition, on the question of infringement is based upon the following premises:

a. The patentee Wilson originally attempted to secure a claim covering broadly the combination of any type of underreamer *body* + lugs.

b. The patent office refused to grant Wilson any such broad claim and compelled him to limit his claim to a *forked or pronged body* + lugs.

c. That each of the types, "Double Improved," "D" and "E," has a body substantially identical with the prior patented Double body and *not* the Wilson *forked or pronged body*.

d. That each of said types, "Double Improved," "D" and "E," embodies lugs, and no attempt was made by us to point out any differences in regard to the lugs respectively embodied in the types, "Double Improved," "D," "E," the Wilson underreamer and the prior O'Donnell and Willard underreamer.

Our argument assumed all said lugs to be identical in every respect.

The point of our argument was that the respective *bodies* of the "Double Improved," "D" and "E" were *not forked or pronged bodies*.

The cuts, appearing on the insert opposite page 13 of the Petition, were selected and used *for the sole purpose* of demonstrating the *absence*, in each of said types, "Double Improved," "D" and "E," of such a *forked body*.

The cut of the "Double Improved" body, appearing on said insert, is a reproduction of the cut appearing

on page 18 of one of appellant's 1911 catalogues. Said cut is an exact representation of one of the exhibits in evidence, as this Honorable Court can ascertain by examining the exhibit.

On the opposite page is an actual photograph of said exhibit and the same was taken on last Saturday, April 27, 1918. In said photograph only the lower end of the underreamer is shown, as the upper end or "sub" has no bearing on this controversy.

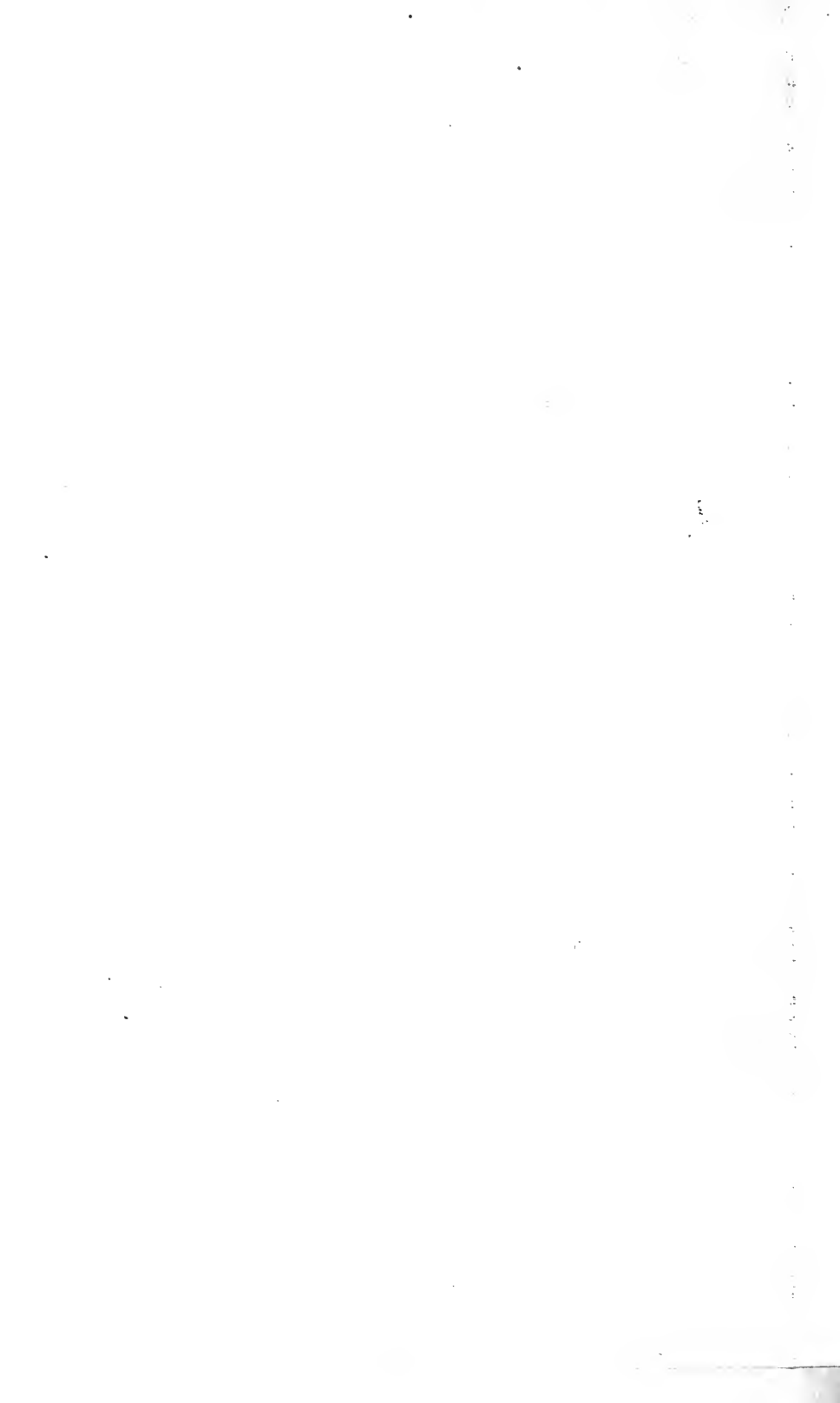
Opposite page 8 of opposing counsel's answer appears a reproduction of cuts appearing on page 19 of the catalogue, which will be filed herewith. Opposing counsel, in regards to such reproduction, says:

"Why wasn't appellant honest enough to place before Your Honors this true picture of the "Double Improved" reamer, which it had on hand in its own catalogue, instead of producing a deceptive picture?"

A mere glance at said cuts shows why they were not used. *They do not plainly show that the body of the underreamer is not a forked body, and, therefore, do not disclose the premise of our entire argument. Why should we select a cut for the purpose of emphasizing the details of construction of the lug formation when no point is made in the argument regarding any difference between any lugs? The argument is based on an assumed identity of such lugs.*

At this point we call attention to the fact that on page 18 of this same catalogue, *and opposite page 19 thereof*, there is the same cut which was reproduced in the Petition. Notwithstanding such fact, and notwithstanding opposing counsel's necessary knowledge





of such fact, *by reason of having made use of said page 19*, he asks:

“Why wasn’t appellant honest enough to place before Your Honors this true picture of the “Double Improved” reamer, which it had on hand in its own catalogue, instead of producing a deceptive picture?”

At the very moment when he was asking such question he necessarily knew that said cut used by us was not “*a deceptive picture.*” but a reproduction of the cut appearing on the page opposite page 19 of appellant’s said catalogue, and a portion of which page 19 he reproduces opposite page 8 of his answer. On page 11 of his said answer he refers to this cut as “*especially constructed,*” notwithstanding he necessarily knew it was taken from page 18 of this catalogue.

On the day the Petition was filed the writer exhibited to opposing counsel the Petition and directed his attention to the cuts therein for the purpose of ascertaining if he had any criticism thereof to offer, because all of said cuts were not exhibits in the case.

Opposing counsel said the lugs in the cut of “Double Improved” were not sufficiently emphasized. The writer, therefore, immediately asked opposing counsel to go with him to Judge Hunt’s chambers, so the matter could be adjusted to the entire satisfaction of opposing counsel. Such a visit was immediately made, as referred to by opposing counsel on page 6 of his answer. During such conference *the writer* suggested the writing of the word “lug” on the cut and drawing a line therefrom to the lug element so as to even more plainly indicate what was already perfectly apparent.

This suggestion met with opposing counsel's approval and he acquiesced in the sufficiency of such notation to meet his criticism. The writer obtained Judge Hunt's permission to make such notation and immediately thereafter did so in ~~all~~ ^{use of the judges} copies of the Petition on file ^{for}

Having so complied with opposing counsel's wishes in the matter the writer considered the incident closed. Notwithstanding the foregoing, opposing counsel has the audacity, on page 6 of his answer, to state Judge Hunt gave *instructions* to the writer to correct the drawing and "*This has not been done.*"

Evidently opposing counsel found it impossible to answer the argument in the Petition and, therefore, has resorted to a tirade of vituperation and abuse to divert the court's attention from the merits of such argument. Furthermore, in order to destroy the major premise of the argument, opposing counsel has resorted to a faked photograph, which might easily be interpreted as showing an underreamer having a *forked body*.

II.

This photograph appears opposite page 7 of opposing counsel's answer. An inspection of this photograph shows that the lug face, in line with the slot in the web, has been either worn or *deliberately broken*, so that the slot extends to the very end of the underreamer, thus completely dividing the web into two prongs or forks. We incline to the theory that this device was deliberately broken before being photographed, because we have asked opposing counsel an opportunity to inspect the same and he has refused to

permit such an inspection. His refusal is evidently based upon a desire to conceal something from us, and so conceal it from the court.

On page 7 of his answer opposing counsel discloses his guilty conscience in regard to such *misleading* photograph, by saying the device shown therein was "*selected at random.*" Why did he take the initiative in stating this particular device was "*selected at random*" and not selected for a particular purpose? Of what importance was it whether the device was selected "*at random*" or not, provided it truthfully and correctly represented a "Double Improved" underreamer as made and sold? By the use of such expression, "*at random,*" is it not apparent opposing counsel is laying a foundation for the defense that it was not deliberately selected for the purpose of deceiving this Honorable Court into a belief that the "Double Improved" embraces a *forked body*, thus destroying the premise of our whole argument on non-infringement?

To use counsel's own expression, why wasn't he honest enough to draw the court's attention to the fact that said photograph discloses an underreamer *so mutilated* and, therefore, was not a correct photograph of any underreamer as made and sold by appellant?

The reason is plain. Counsel cannot answer our argument in any way other than by diverting the court's attention away from the merits thereof and by deceiving the court with such a misleading photograph.

If appellee's counsel honestly believed that appellant's cut was not a true representation, and wished Your

Honors to have before you a true representation of the Double Improved Reamer body, why did he not, while in San Francisco, photograph the exhibit and produce such photo? Why resort to a worn out broken body?

III.

On page 32 of the Petition the word “*not*” is left out of the quoted sentence: “We have *not* attempted to dodge the election made in this case, * * *.” The omission of such word was obviously not intentional, because the whole following argument is based upon the premise that opposing counsel, *in fact*, did *not* attempt to dodge the election. As the sentence reads, with the word “*not*” omitted, it is destructive of the whole of said argument.

The other errors in the Petition are of a trivial nature and of no possible significance. Nevertheless, we deeply regret their occurrence and the same will be corrected. It is to be noted Judge Cushman’s opinion, as set forth in the record, and as reported in the Federal Reporter, differs in respect to spelling, punctuation and paragraphing. Furthermore, it contains an erroneous quotation from the record.

The affidavit of Frederick S. Lyon, with accompanying exhibits, is filed herewith.

Very respectfully submitted,

WILLIAM K. WHITE,

Solicitor and Counsel for Appellant.

FREDERICK S. LYON,

Solicitor and Counsel for Appellant. B.O.
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